SHARP Service Manual

SG-400H

In the interests of user-safety the set should be restored to its original condition and only parts indentical to those specified be used.

DOLBY SYSTEM ®

"Dolby" and "Double-D" symbol are trade marks of Dolby Laboratories Inc. Manufactured under license from Dolby Laboratories Inc.

MODEL SG-400H

SPECIFICATIONS

GENERAL

Circuit:	Receiver (LW/MW/SW/FM) 4-band super-heterodyne stereo tuner-amplifier with FM multiplex circuit with cassette tape-deck and record player system
Power source:	110/220/240V, 50Hz
Semiconductors:	12-Integrated Circuit 1-FET, 27-Transistors, 41-Diode 9-LED
Dimensions:	753mm(W) x 180mm(H) x 351mm(D)
Weight:	14.5 kg

AUDIO SECTION

Music power output:
2 x 33W/4 ohms Both channels driver
Continuous power output:
2 x 25W/4 ohms Both channels driver
Frequency response:
35 ~ 20,000Hz

Channel separation:	40 dB (1kHz)
Tone control:	Bass ±10 dB (100Hz) Treble ± 10 dB (10,000Hz)

Input sensitivity and Input impedance:
Microphone . . . . . .1mV/50K ohm
REC/PB. . . . . .300V/100K ohm
Output level and output impedance:
Speaker . . . . . .4 ohm
Headphone. . . . . .8 ohm
Rec. out 30mV/100Kohms

FM SECTION

Frequency coverge:	87.6 ~ 108MHz
Usable sensitivity:	2.0μV (40kHz deviation, S/N Ratio =30 dB)
S/N ratio:	54 dB
Stereo separation:	40 dB

Frequency response:
30Hz to 15KHz

IF rejection:	80 dB
Image rejection:	50 dB
Selectivity:	40 dB (300KHz)
Capture ratio:	1.5 dB

FM STEREO SECTION

Stereo Separation:	40 dB
Distortion:	0.4%
19kHz rejection:	40 dB
38kHz rejection:	40 dB

AM SECTION

Frequency range:	LW . . . . . .150 ~ 370kHz
	MW. . . . . .520 ~ 1620kHz
	SW . . . . . .5.95 ~ 18 MHz
Sensitivity:	LW. 200μV/m
	MW. 250μV/m
	SW 63μV
IF rejection:	50 dB (at 600kHz)
Image rejection:	46 dB (at 1400kHz)

TAPE RECORDER SECTION

Type:	4-track 2-channel stereo cassette tape deck
Tape:	Philps standard compact cassette tape
Tape speed:	4.75cm/sec

Recording system and bias frequency:
AC bias (53.5kHz)

Erasing system:	AC erase (53.5kHz)
Track system:	4 track 2 channel

Frequency response:
30Hz ~ 15kHz (CrO_2 tape)
30Hz ~ 12.5kHz (Normal tape)

S/N ratio:	55 dB
Wow and Flutter:	0.2%
F·F or REW time:	90 sec (Using C-60)
Channel separation:	20 dB (1kHz)
Erase ratio:	60 dB
Motor:	12V DC motor with electrical governa

RECORD PLAYER SECTION

System:	2 speed belt drive type
Motor:	4-pole synchronous motor
Speed:	33-1/3 or 45 r.p.m 2 speeds.
Wow & Flutter:	0.15%
S/N ratio:	55 dB
Cartridge:	Magnetic (IM)
Stylus pressure:	2.5 g

Frequency characteristic:
30Hz ~ 12,500Hz

SHARP CORPORATION OSAKA, JAPAN

CABINET DISASSEMBLY

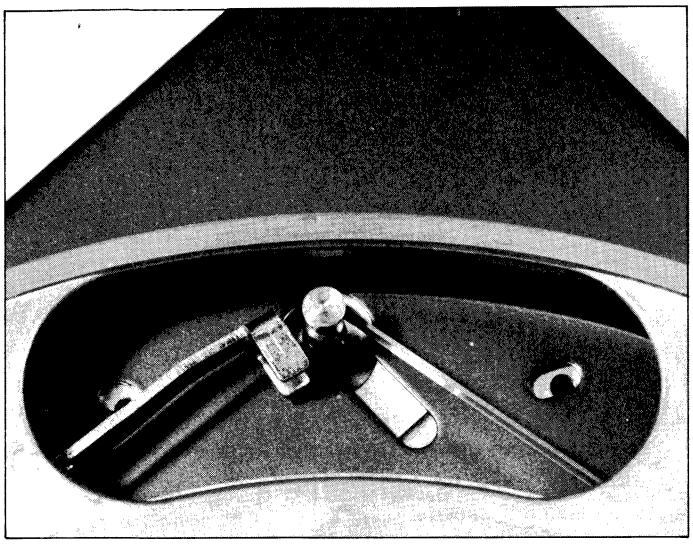


Figure 1

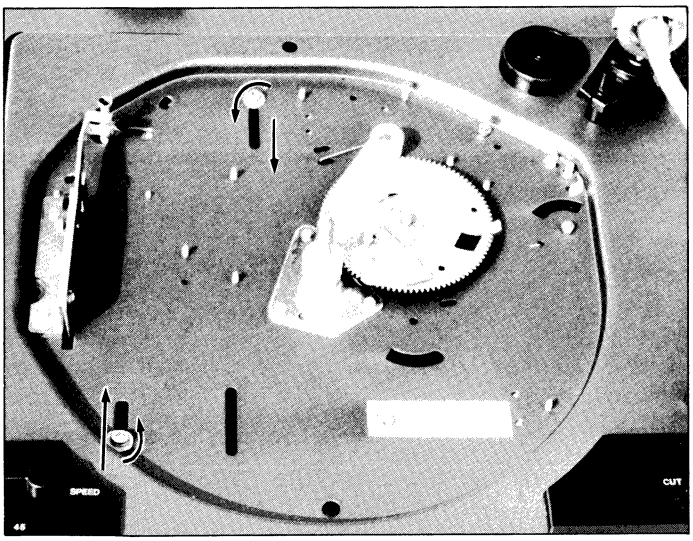


Figure 2

1. Lift the turn table sheet to remove.
2. If the turntable is rotated, the belt is seen on the motor pulley. Remove it. (Figure 1)
3. Lift the turntable to detach.
4. Loosen the screw at the player board. Fixed at two narrow natches, and shift them fully in the direction of center (Figure 2)
5. Lift the left side of player board, and remove two pieces of pin plugs and AC cord plug.
6. Then, detach the player.
7. Detach tuning knob (1 pc.), control knobs (6 pcs.) and preset tuning knobs (5 pcs.)
8. Turn over the cabinet, and remove six pieces of bottom plate fastening screws.
9. Put the cabinet in the original state, and remove four pieces of screws under the player section and one piece of screw under the tuning knob.
10. Lift up the front cabinet gently, then it can be detched together with the player unit.

DUST COVER REMOVAL

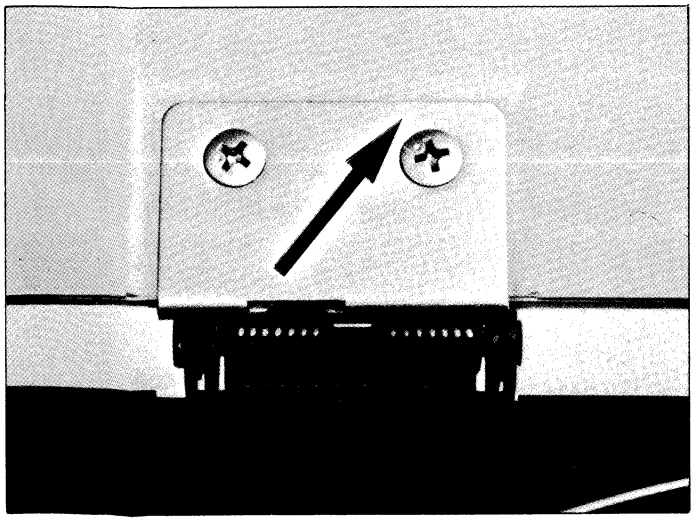


Figure 3

1. To remove the dust cover proceed as follows:
   A Fully open the dust cover
   B Remove two hinges by moving the dust cover in the direction of arrow mark shown in the figure 3.
2. To attach the dust cover proceed as follows:
   Join hinges each other by pushing the reverse direction of arrow mark.

LAYOUT OF PARTS

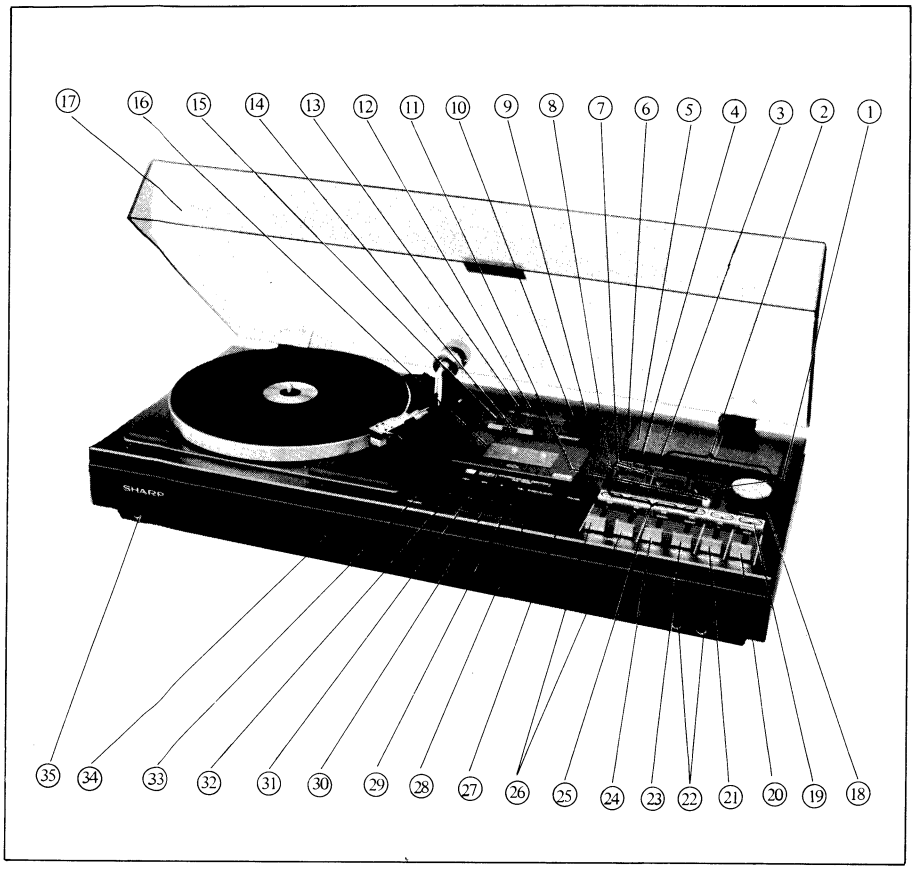


Figure 4

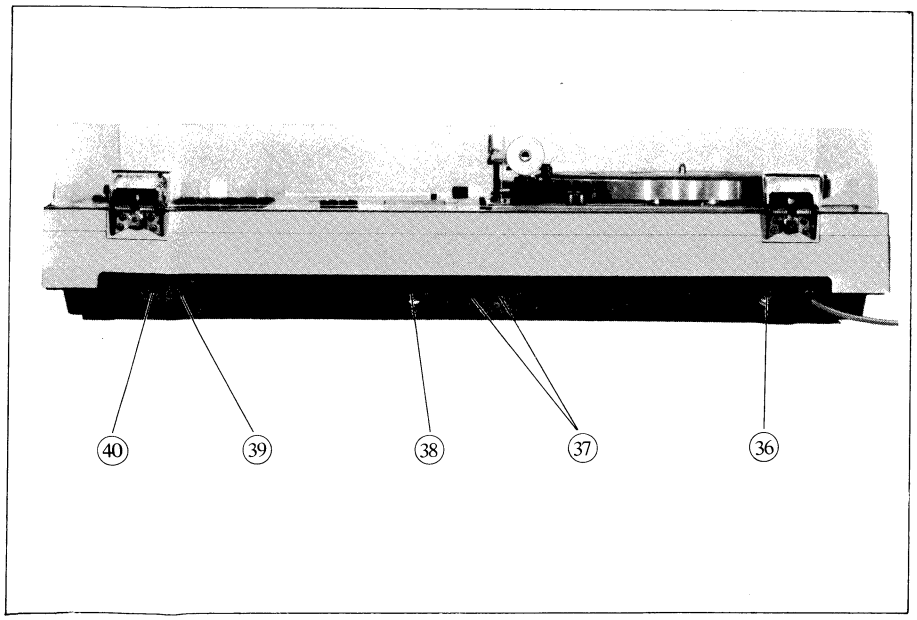


Figure 5

① FM pre-set meter
② Function switch
③ Loudness switch
④ Stereo-mono selector
⑤ FM stereo indicator
⑥ FM muting switch
⑦ Broadcast signal/Record and Playback Meter (Right channel)
⑧ Record and Playback level meter (Left channel)
⑨ ALC switch
⑩ Dolby N·R· switch
⑪ AFC/RIF switch
⑫ Dolby N·R· indicator
⑬ Recording indicator
⑭ Digital tape counter
⑮ Counter reset button
⑯ Cassette holder
⑰ Dust cover
⑱ Manual tuning control
⑲ Touch preset botton
⑳ Volume control
㉑ Balance control
㉒ Microphones jacks
㉓ Treble control
㉔ Bass control
㉕ FM pre-set tuning controls
㉖ Record level controls
㉗ Pause key
㉘ Stop/Eject key
㉙ Fast forward key
㉚ Play key
㉛ Rewind key
㉜ Record key
㉝ Power key
㉞ Front cabinet
㉟ Headphones jack
㊱ Voltage selector
㊲ Left/Right speakers socket
㊳ Record/Playback socket
㊴ AM (LW/MW/SW) aerial socket
㊵ FM aerial socket

DIAL CORD STRINGING

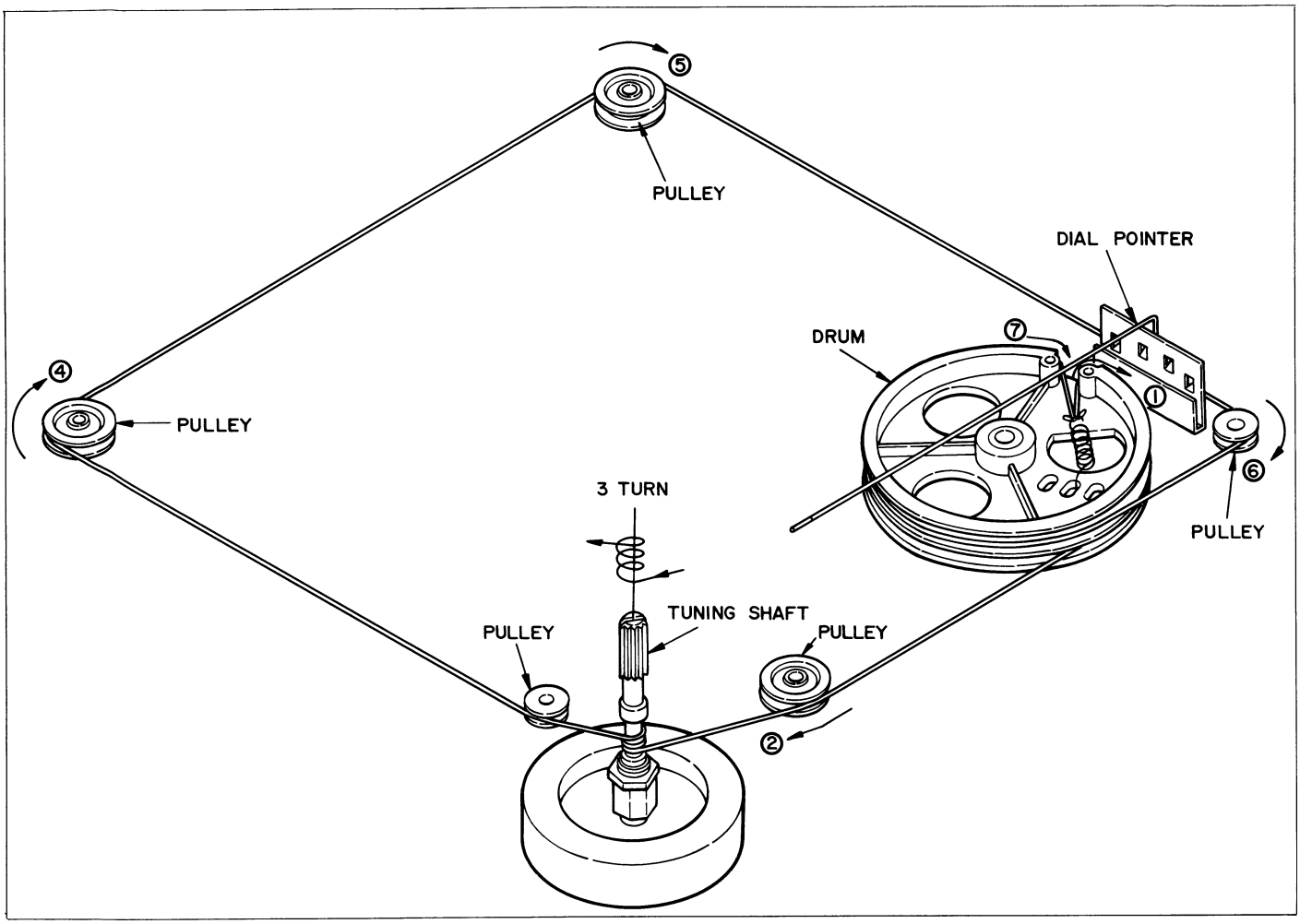


Figure 6

VOLTAGE SELECTION

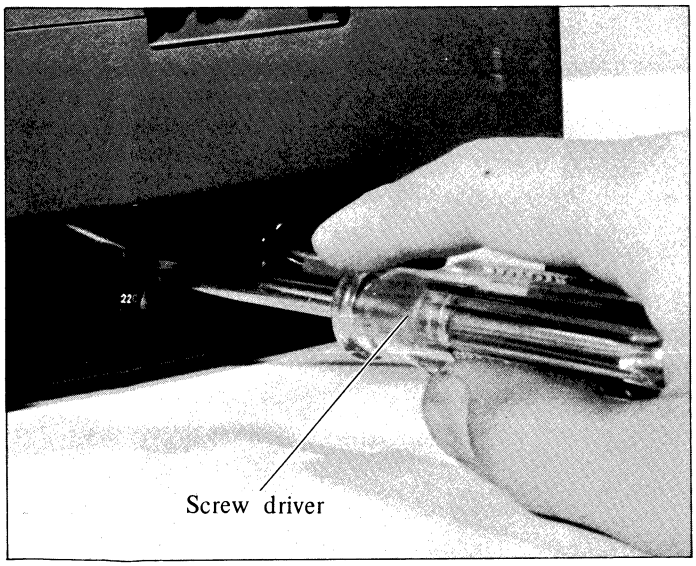


Figure 7

Check the preset voltage before connecting the mains plug to a mains outlet. If the setting is different from your local supply mains voltage the selector must be reset as follows. Rotate the voltage selecter by using a screw drive so that your local voltage number can be seen.

MECHANICAL ADJUSTMENT

PAUSE MECHANISM ADJUSTMENT (Refer to Figure 8)

1. Put the mechanism in PLAY mode and slowly depress the pause pushbutton. At the time, see that the take-up idler and take-up turntable come off from each other and also the capstan shaft and pressure roller come off from each other.
2. If it is found that the checking in the step 1 above is not satisfied, further adjust the adjustment point shown in Figure 8.

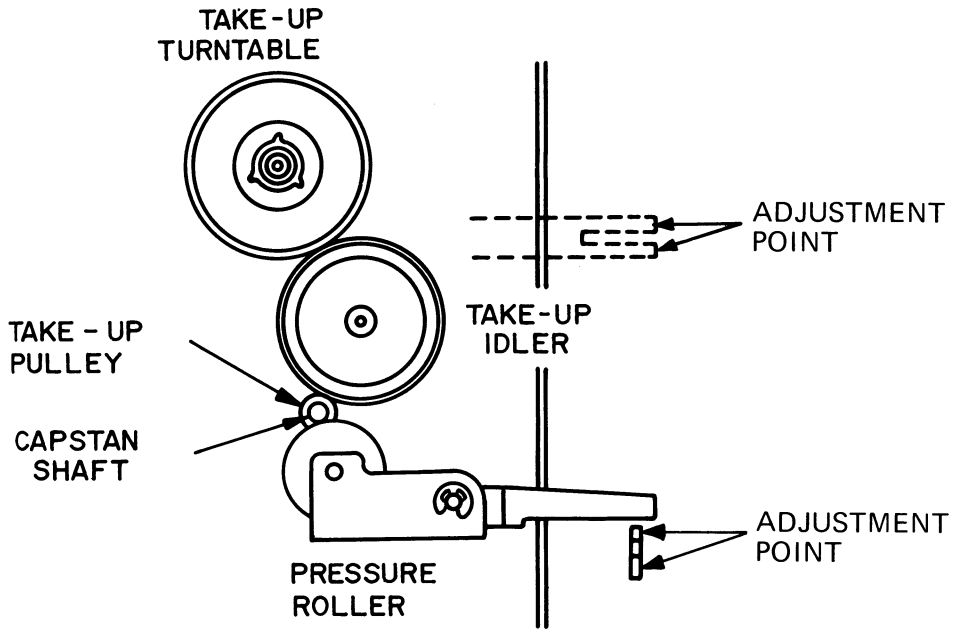


Figure 8

PRESSURE ROLLER PRESSURE ADJUSTMENT (Refer to Figure 9)

1. With power supply turned on, push the point A with use of tesnion gauge to make the pressure roller apart from the capstan shaft. Then, gradually release the tension gauge and read its value when the pressure roller starts to rotate.
2. It is normal when the tension gauge reads 250 – 350 g. If the above value is not satisfied, change the setting position of pressure spring.

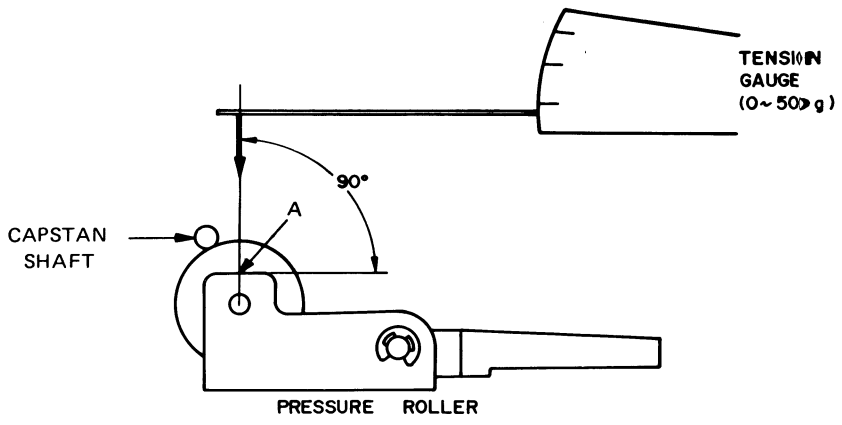


Figure 9

FLYWHEEL THRUST CLEARANCE ADJUSTMENT (Refer to Figure 10)

Slowly tighten the screw for flywheel thrust clearance until the thrust clearance becomes 0 (zero) and loosen the screw by 2/5 turn from this point. Since screw's pitch is 0.5mm, thrust clearance of about 0.2mm is produced.

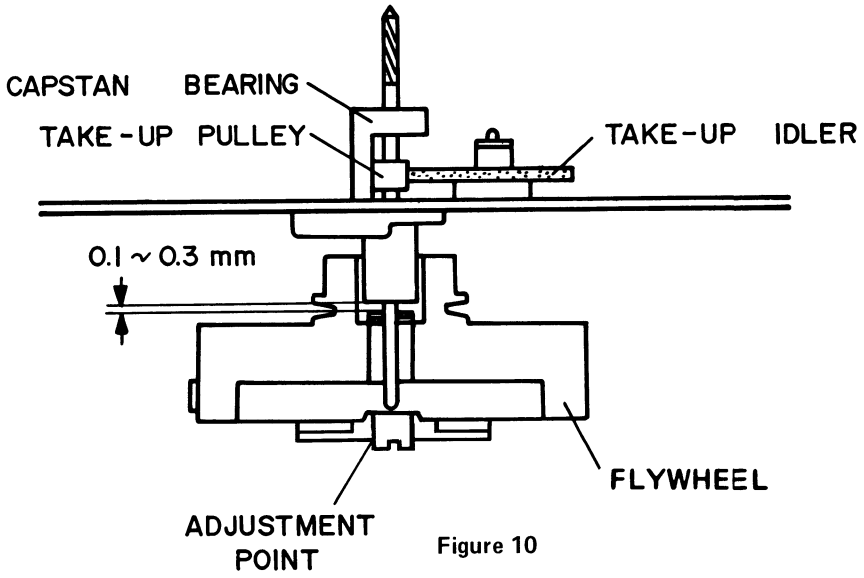
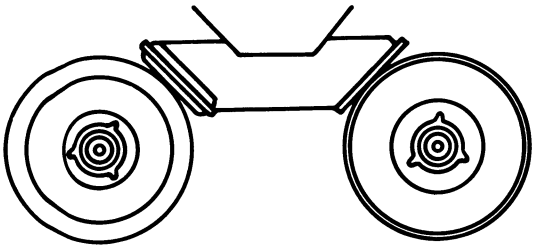


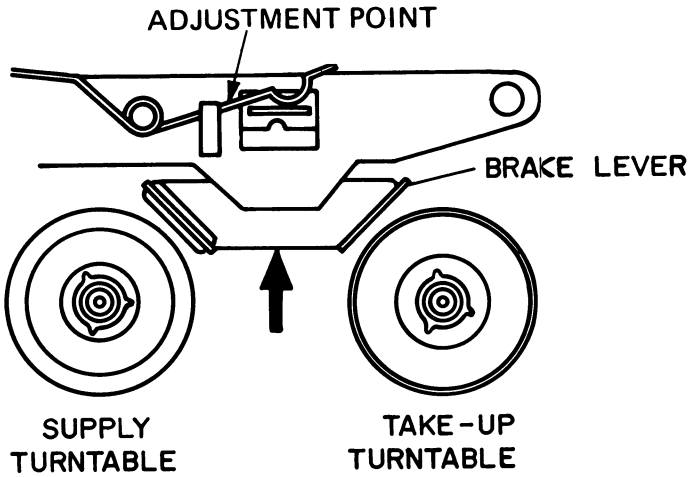
Figure 10

BRAKE MECHANISM ADJUSTMENT (Refer to Figure 11)

1. Put the mechanism in STOP mode, push the brake lever in the arrowed direction shown in Fig. 11 by using a tension gauge (0 ~ 300 gr.) until the brake lever touches the turntable (Take-up & Supply). At the time, see that the tension gauge reads 150 to 250 gr.
2. Put the mechanism in PLAY, FF or REW mode and see that the brake lever is kept off the turntable (Take-up & Supply) in each mode.



STOP MODE



PLAY, FF, REW MODE

Figure 11

TORQUE CHECK (Refer to Figure 12)

1. Set the tension measuring reel to the turntable (to the take-up side at PLAY or FAST FWD mode and to the supply side at REWIND mode).
2. Then, rotate the reel in the same direction as for turntable and read the torque value when the pointer is stabilized.

Mode	Torque Value
PLAY	30 – 60 gr.cm
FAST FWD	Over 50 gr.cm
REWIND	Over 50 gr.cm

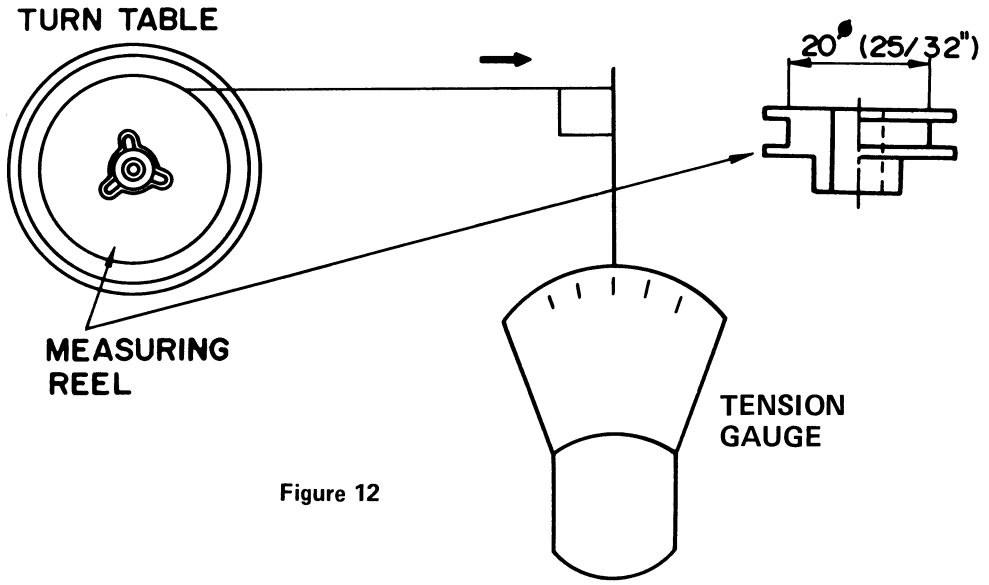


Figure 12

MOTOR SWITCH SETTING POSITION ADJUSTMENT (Refer to Figure 13)

1. Check that the brake return lever is pressed against the switch (SW11) in PLAY mode and that the brake return lever is apart at the distance from the switch (SW11) in STOP mode.
2. Adjust it by bending the adjustment point when the distance is abnormal.

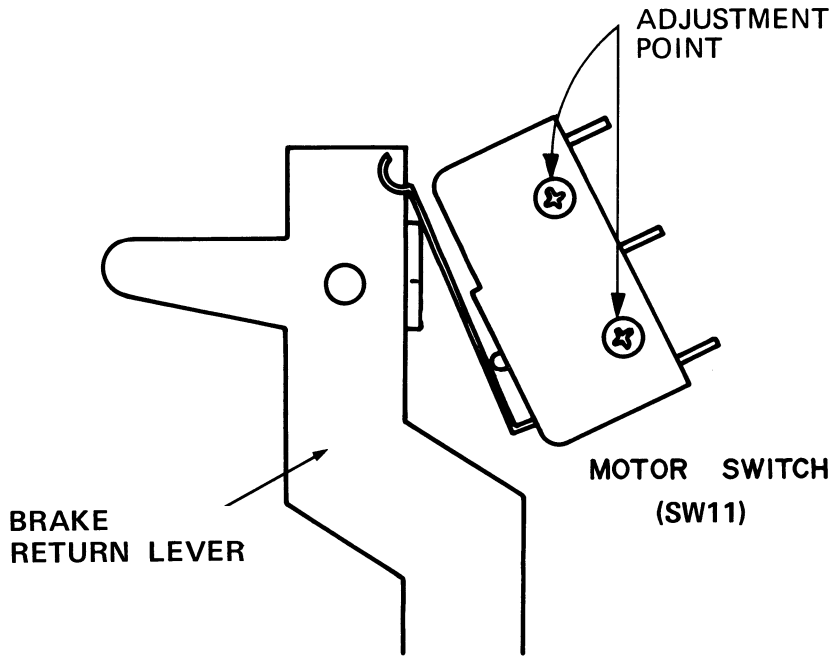


Figure 13

TAPE SPEED CHECK (Refer to Figure 14)

1. Connect an 4 ohm dummy load resistor to the speaker output socket (SO3 or SO4).
2. Connect a frequency counter across the 4 ohm resistor.
3. Place the unit in a horizontal position and playback the test tape (TEAC MTT-111, 250 PWB/mm –10 dB, 3 kHz).
4. Ensure that the frequency counter indicates within 3060 Hz ~ 2970 Hz.

If the tape speed is not within this range, clean the belt, flywheel, capstan, pinch roller and the other running parts. Check the torque of take-up turntable and pressure of the pinch roller. Neverthless good results can not be obtained, replace the motor.

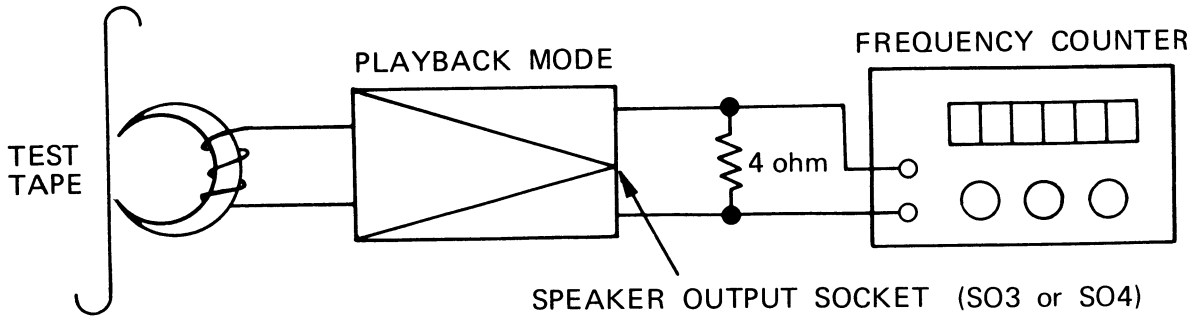


Figure 14

AUDIO MUTING SWITCH SETTING POSITION ADJUSTMENT (Refer to Figure 15)

Loosen the screw so that the contact clearance will be 0.3 ~ 0.5mm in the PLAYBACK mode, as shown in Figure 15. Be sure the contact points touch with each other tightly.

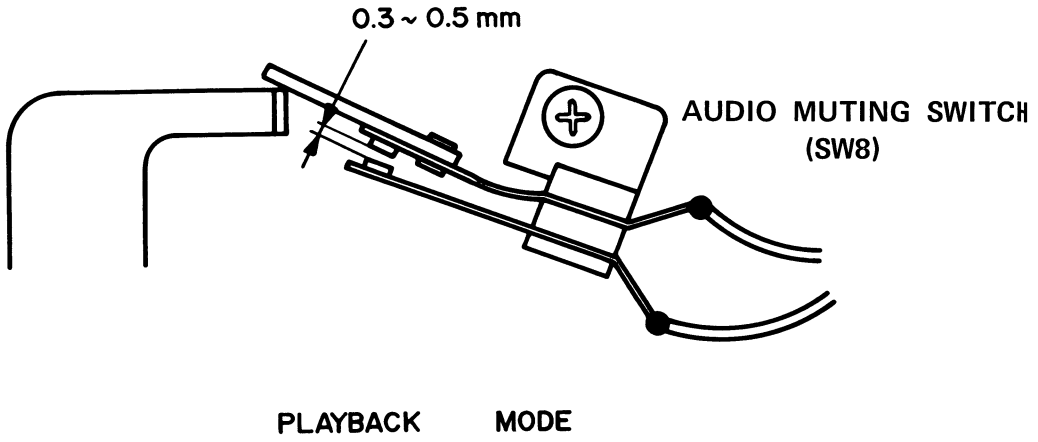


Figure 15

ELECTRICAL ADJUSTMENT

RECORD AMPLIFIER BIAS OSCILLATOR ADJUSTMENT (Refer to Figure 16)

1) As shown in Fig. 16, connect the V.T.V.M. in between the test point (TP-3, TP-4) and earth.
2) Set the Auto Tape Selector Switch (SW9) in the CrO_2 position.
3) Set the unit at "RECORD" mode.
4) Adjust the Semi-variable resistor (VR603, VR604) so that the V.T.V.M. reads 70mV.
5) To check the normal position, leave Auto Tape Selector Switch (SW9) in the normal position. It is normal if V.T.V.M. reading is 50 ~ 60mV.

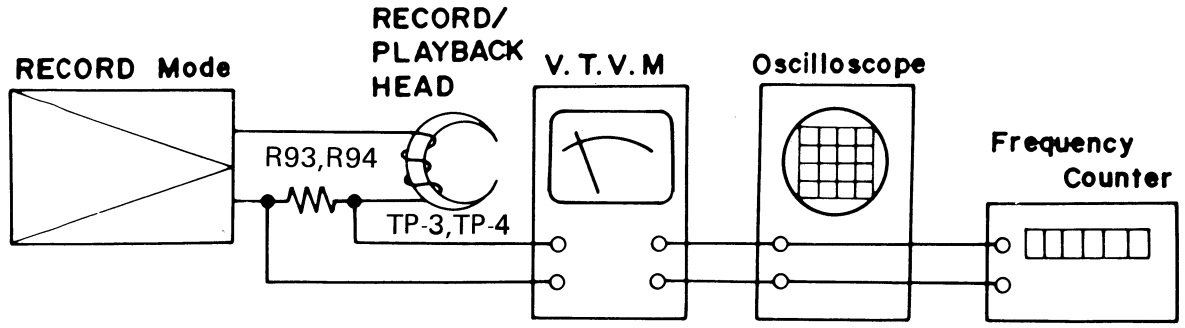


Figure 16

LEVEL METER SENSITIVITY ADJUSTMENT (Refer to Figure 17)

1) Connect the V.T.V.M. in between the test point (TP-1, TP-2) and earth.
2) Set Dolby Noise Reduction Switch (SW3A) in the off position, and Function Switch (SW1) in the TAPE position.
3) With the unit set at "RECORD" mode, give it signal of −10 dB, 1 kHz from REC/PB socket (SO5) and adjust RECORD LEVEL Control (VR401, VR402) so that the V.T.V.M. reads 580mV.
4) At this time, adjust the semi-variable resistor (VR9, VR10) so that the level meter indicates Dolby Level (it means a level of "0VU" indicated on the level meter.)

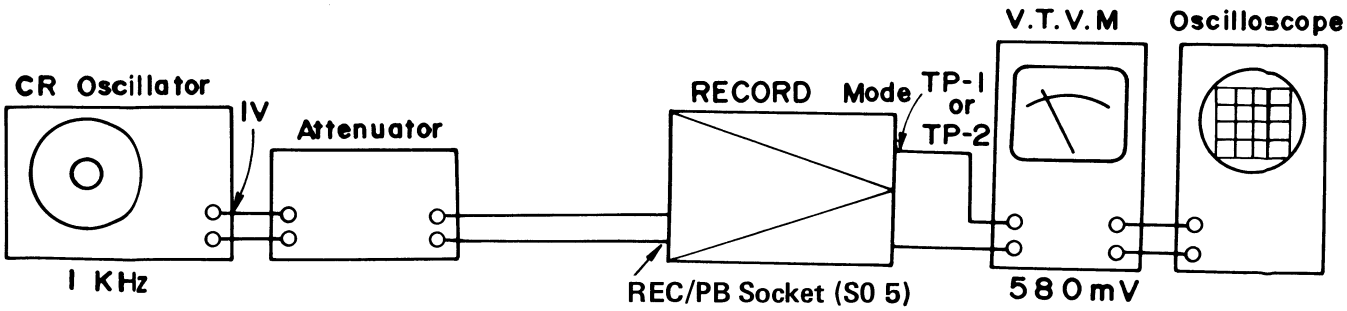


Figure 17

PLAYBACK SENSITIVITY ADJUSTMENT (Refer to Figure 18)

1) Set the unit at playback mode.
2) Connect the V.T.V.M. in the between the test point (TP-3, TP-4) and earth.
3) Load the unit with a test tape (MTT-150, 400 Hz recorded) and play it.
4) Set Dolby Noise Reduction Switch (SW3A) in the off position, and Auto Tape Selector Switch (SW9) in the normal position.
5) At this time, adjust the semi-variable resistor (VR7, VR8) so that the V.T.V.M. reads 580mV.

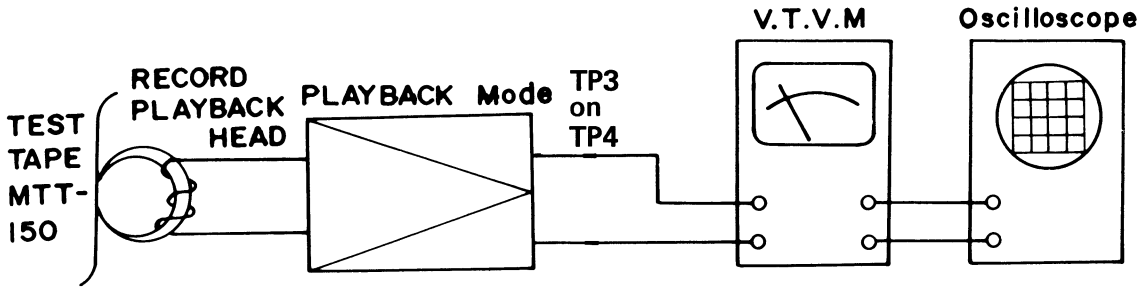


Figure 18

ERASE CURRENT CHECK (Refer to Figure 19)

1) Set the unit at "RECORD" mode.
2) Set the Auto Tape Selector Switch (SW9) in the CrO_2 position.
3) Connect V.T.V.M. to the test point (TP5) and earth.
   It is normal if V.T.V.M.'s reading is 70 ~ 150mV.
4) To check the normal position, leave Auto Tape Selector Switch (SW9) in the NORMAL position.
   It is normal if V.T.V.M.'s reading is 45 ~ 120mV.

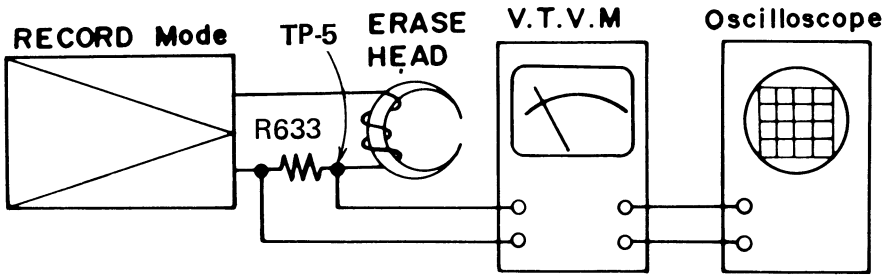


Figure 19

RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT (Refer to Figure 20)

1) Set Dolby Noise Reduction Switch (SW3A) in the off position.
2) Connect 4K ohm dummy resistor to the SPEAKER Socket (SO3, SO4) and connect the V.T.V.M. to its ends.
3) Insert the test tape (MTT-114, 10 kHz Recorded).
4) Adjust the adjusting screw so that the playback output voltage of the test tape becomes maximum in the sides and the phase between channels gets same.

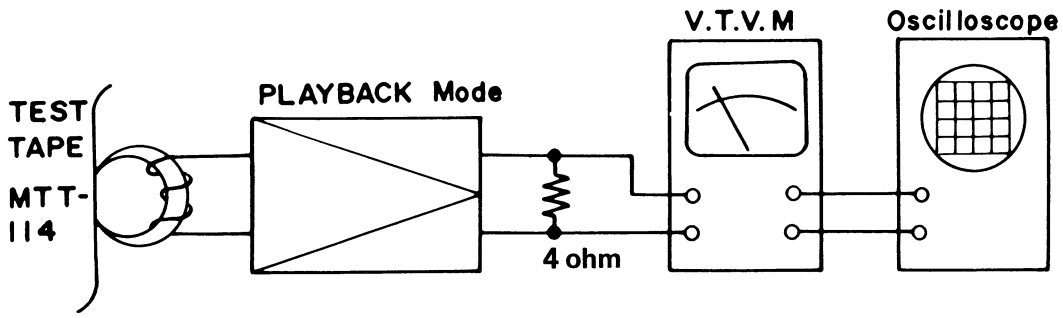


Figure 20

RECORD/PLAYBACK SENSITIVITY ADJUSTMENT (Refer to Figure 21)

1) Connect the V.T.V.M. in between the test point (TP-1, TP-2) and earth.
2) Insert the tape (non-recorded), and set the Function Switch (SW1) in the TAPE position.
3) With the unit set at "RECORD" mode, give it signal of −10 dB, 1 kHz from REC/PB Socket (SO5) and adjust RECORD LEVEL Control (VR401, VR402) so that the V.T.V.M. reads 180 ~ 220mV.
4) Adjust the semi-variable resistor (VR601, VR602) so that the V.T.V.M. reads the playback output voltage of 410mV.
5) To check the CrO_2 tape, leave Auto Tape Selector Switch (SW9) in the CrO_2 position.
6) It is normal if V.T.V.M.'s reading is 170 ~ 235mV.
7) At that time, Adjust the VOLUME Control (VR403) is minimum position.

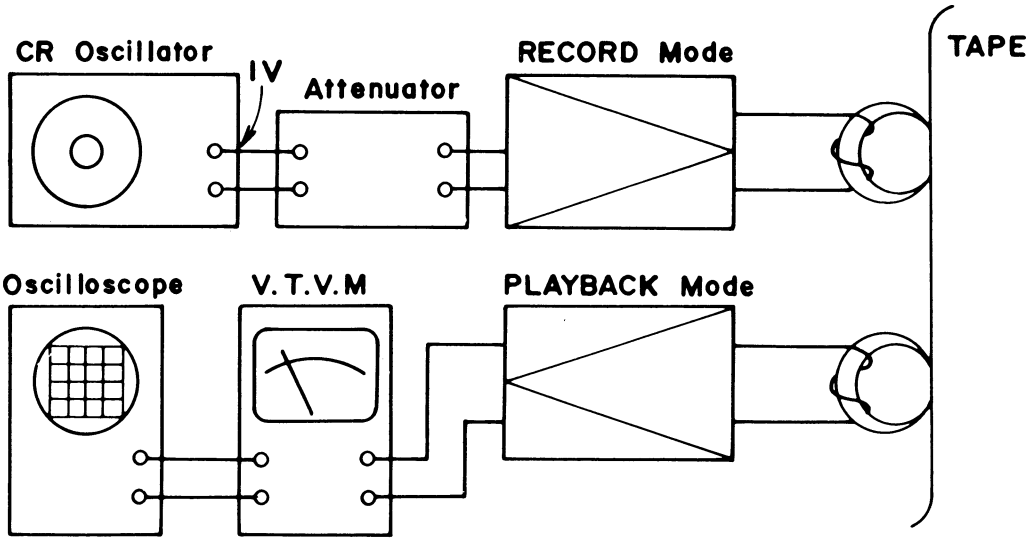


Figure 21

DOLBY NOISE REDUCTION CIRCUIT CHECK (Refer to Figure 22)

1. Connect the V.T.V.M. in between the test point (TP-1, TP-2) and earth.
2. Set Dolby noise reduction switch (SW3A) in the ON position, and Function Switch (SW1) in the TAPE position.
3. Insert the tape (non-recorded).
4. With the unit set at "RECORD" mode, give it signal of −35 dB, 100 Hz from REC/PB socket (SO5) and adjust RECORD LEVEL control (VR401, VR402) so that the V.T.V.M. reads 32.6 mV.
5. Give the unit 1 kHz signal, 10 kHz signal and 12.5 kHz signal in the order and if the V.T.V.M. reads as tabulated below with each input signal, it is normal.

Frequency	1 kHz	10 kHz	12.5 kHz
V.T.V.M. reads	46 ~ 80 mV	44.5 ~ 70mV	42.6 ~68.2 mV

6. Give the unit signal of −50 dB, 100 Hz and adjust RECORD LEVEL control (VR401, VR402) so the V.T.V.M. records 5.8 mV.
7. In the same manner as in the step 5 above, give the unit 1 kHz signal, 10 kHz signal and 12.5 kHz signal in the order and if the V.T.V.M. reads as tabulated below with each signal, it is normal.

Frequency	1 kHz	10 kHz	12.5 kHz
V.T.V.M. reads	8.2 ~ 16.4 mV	13.7 ~ 24.9 mV	13.5 ~ 23.4 mV

Notes: The abnormal oscillation of Dolby noise reduction circuit is mainly attributable to the two causes:
IC (Integrated Circuit) for Dolby noise reduction is inferior.

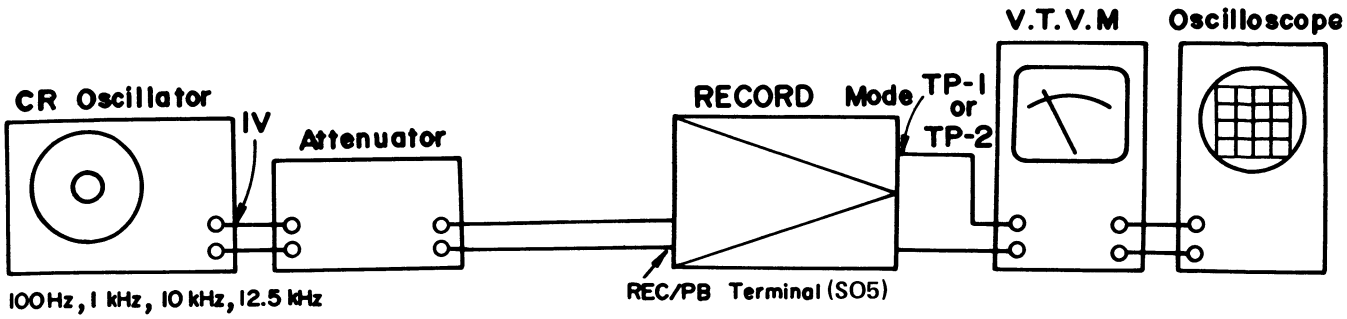


Figure 22

ALIGNMENT INSTRUCTIONS (TUNER)

Alignment is an exacting procedure and should be undertaken only when necessary.
If alignment of AM and FM is required, either section may be done first.
The FM stereo section, however, should be done only if the FM monaural section is properly adjusted.
Notes: Don't use a metallic screw driver.

REQUIRED EQUIPMENT:

1. Signal generator with a frequency range of 150 kHz to 1650 kHz: AM
2. Signal generator with a frequency range of 87.4 MHz to 109 MHz: FM
3. Signal generator with a frequency output of 10.7 MHz±0.5 MHz: FM
4. Vacuum tube voltmeter (AC-VTVM)
5. Sweep signal generator with a sweep range of at least 500 kHz and center frequency of 10.7 MHz with at least a 10.7 MHz marker. (Ext. Marker may be used.)
6. Oscilloscope with a wide range amplifier of approximately 100 kHz
7. Test loops, a coil of any size wire, one turn or more.
8. FM stereo signal generator.
9. Audio signal generator with a frequency of 20 Hz to 100 KHz.

Notes: Allow the set at least five minutes to warm up before attempting alignment. During alignment keep the signal generator output at the lowest level that will maintain a usable output from the set, except for FM stereo signal generator. Take much care, lest the grounding of FM sweep signal generator input should make multipaths which made FM IF alignment incorrect. To avoid this the grounding lead may be connected through 0.01-0.04 MFD capacitor to the tuner chassis when sweep generator is connected to the tuner section.

Generator modulation(AM) 30%, 400Hz
Generator modulation(FM) ..... 40kHz, 400 Hz
Generator modulation(FM stereo) ..... CH.L. or CH.R. 40kHz, 1000Hz Mod.

THE INSTRUCTION OF FREQUENCY ADJUSTMENT

In order to comply with FTZ rule Nr. 358 S757, please fix the low end of dial frequency (87,5 MHz) and the high end of dial frequency (107.9 MHz) on FM band, by adjusting oscillation coil (L4) and oscillation Trimmer (TC3) respectively, as illustrated in Figure 23.

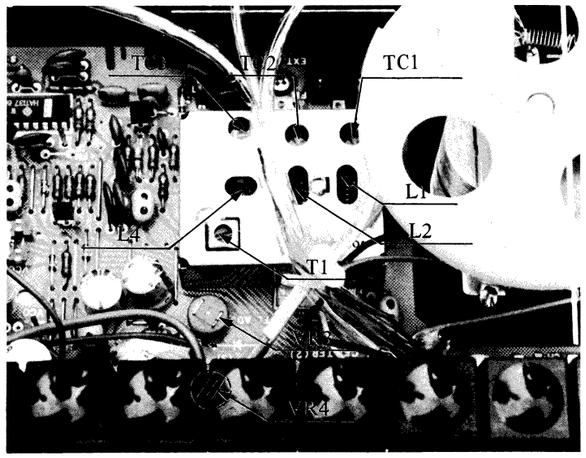


Figure 23

ALIGNMENT POINT

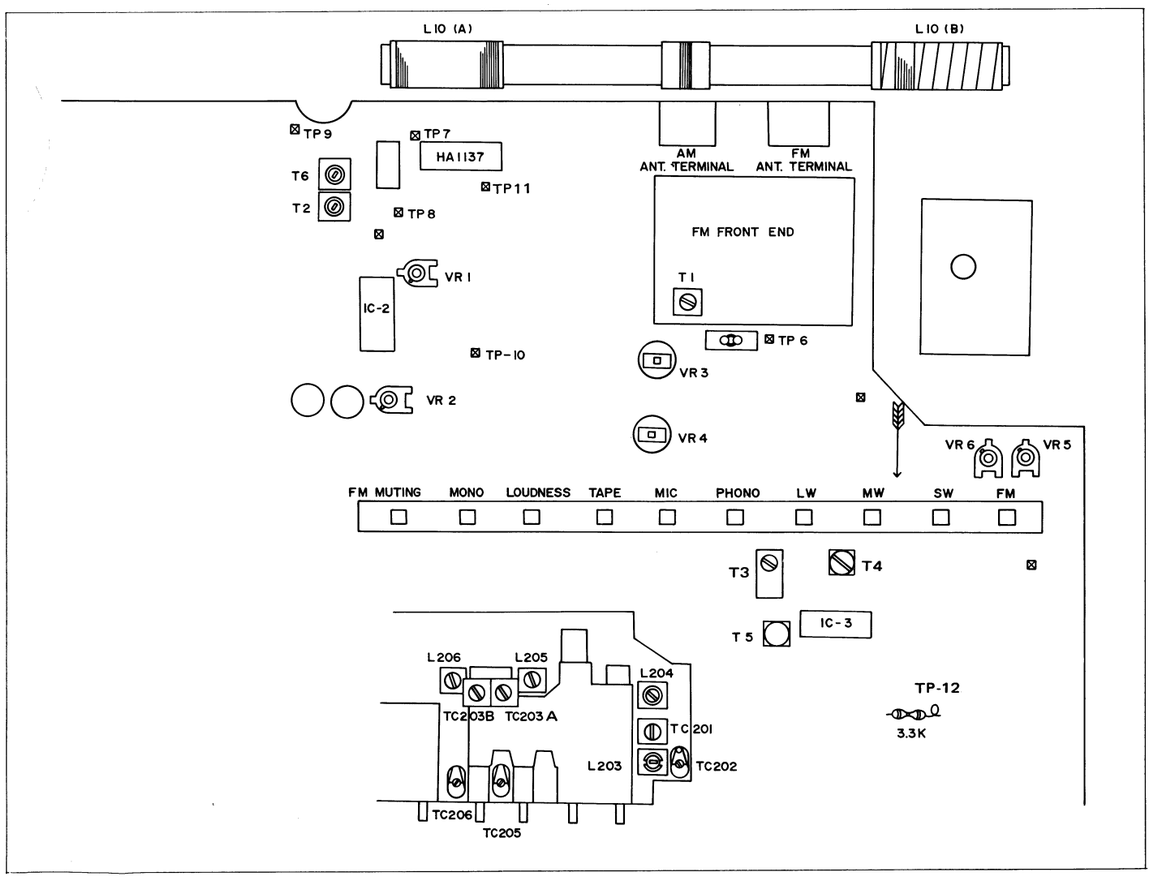


Figure 24

AM (MW, SW, LW) IF ALIGNMENT (Refer to Figure 25)

PROCEDURE NUMBER	Signal Generator		Dial Pointer Setting	Selector Setting (SW1)	Meter Connection	Adjustment	Rmarks
	Connection	Frequency					
1	Thru 0.01 MFD to IC-3 (1 Pin) as small as possible	455kHz (Modulated)	High end of Dial	Function Switch (M-MW Position)	TP12	T3 T4	Adjust T3 to obtain maximum response at 455kHz. Next, adjust T4 to obtain minimum response at 455kHz.

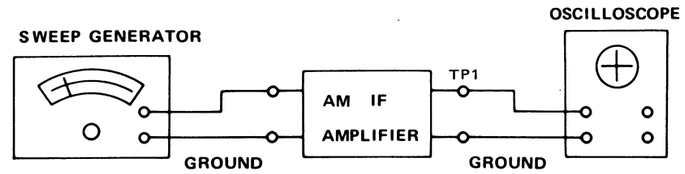


Figure 25 AM ALIGNMENT EQUIPMENT CONNED

MW RF ALIGNMENT (Refer to Figure 26)

PROCEDURE NUMBER		Signal Generator		Dial Pointer Setting	Selector Setting (SW1)	Meter Connection	Adjustment	Remarks
		Connection	Frequency					
1	Band Coverge	Radiated Signal as small as possible	515kHz Modulated	Low end of Dial	Function Switch (M-MW Position)	Across Output Load (SO3 or SO4)	Oscillator Coil L205	Volume Control maximum. Adjust for maximum output. Repeat 2 or 3 times.
2		Radiated Signal as small as possible	1650kHz Modulated	High end of Dial	Same as step 1	Same as step 1	Oscillator Trimmer TC203A	Same as step 1
3	Tracking	Radiated Signal as small as possible	1400kHz Modulated	1400kHz	Same as step 1	Same as step 1	Tuning Trimmer TC205	Same as step 1
4		Radiated Signal as small as possible	600kHz Modulated	600kHz	Same as step 1	Same as step 1	Antenna Coil L10 A	Same as step 1

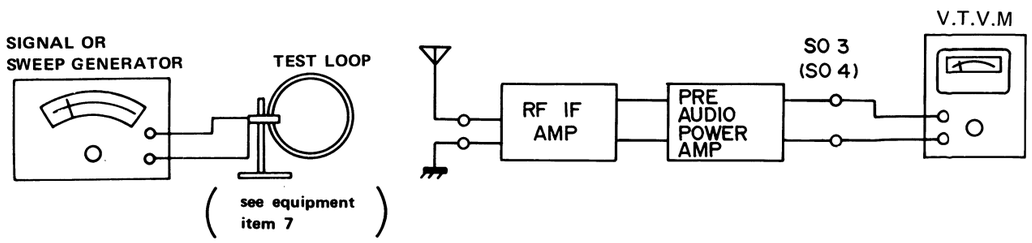


Figure 26 MW/LW ALIGNMENT EQUIPMENT CONNECTIONS

LW RF ALIGNMENT (Refer to Figure 26)

PROCEDURE NUMBER		Signal Generator Connection	Signal Generator Frequency	Dial Pointer Setting	Selector Setting (SW1)	Meter Connection	Adjustment	Remarks
1	Band Coverge	Radiated Signal as small as possible	145kHz Modulated	Low end of Dial	Function Switch (L-LW Position)	Across Output Load (SO3 or SO4	Oscillator Coil L206	Volume Control maximum. Adjust for maximum output. Repeat 2 or 3 times.
2		Radiated Signal as small as possible	385kHz Modulated	High end of Dial	Same as step 1	Same as step 1	Oscillator Trimmer TC203B	Same as step 1
3	Tracking	Radiated Signal as small as possible	170kHz Modulated	170kHz	Same as step 1	Same as step 1	Antenna Coil L10B	Same as step 1
4		Radiated Signal as small as possible	340kHz Modulated	340kHz	Same as step 1	Same as Step 1	Tuning Trimmer TC206	Same as step 1 Same as step 1

SW RF ALIGNMENT (Refer to Figure 27)

PROCEDURE NUMBER		Signal Generator Connection	Signal Generator Frequency	Dial Pointer Setting	Selector Setting (SW1)	Meter Connection	Adjustment	Remarks
1	Band Coverge	AM Signal generator connected to the AM EXT ANT terminal (SO2) through IEC dummy as small as possible.	5.7 MHz Modulated	Low end of Dial	Function Switch (K-SW Position)	Across Output Load (SO3 or SO4)	Oscillator Coil L204	Volume Control maximum Adjust for maximum output. Repeat 2 or 3 times
2		Same as step 1	18.3 MHz Modulated	High end of Dial	Same as step 1	Same as step 1	Oscillator Trimmer TC201	Same as step 1
3	Tracking	Same as step 1	6.5 MHz Modulated	6.5 MHz	Same as step 1	Same as step 1	Antenna Coil L203	Same as step 1
4		Same as step 1	16 MHz Modulated	16 MHz	Same as step 1	Same as step 1	Tuning Trimmer TC202	Same as step 1

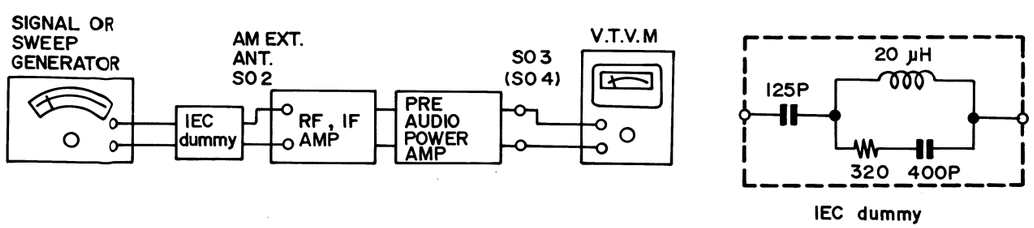
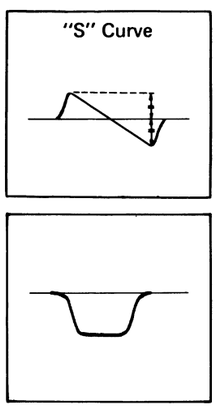


Figure 27 RF ALIGNMENT EQUIPMENT CONNECTIONS

FM ALIGNMENT (Refer to Figure 28)

PROCEDURE NUMBER		Signal Generator Connection	Signal Generator Frequency	Dial Pointer	Selector Setting (SW1)	Meter Connection	Adjustment	Remarks
1	IF (NOTE A)	Through 0.01 MFD to TP 6	10.7MHz ±50kHz	High end of Dial	Function Switch (U-FM and MONO) Touch preset switch (MANUAL)	Oscilloscope connected to test point TP11	T1	Set curve at maximum as shown in the figure 28
2		Same as above	No signal	Same as above	Same as above	Connect the V.T.V.M to Point TP7 and TP8	T2	Adjust the 0V to lead of V.T.V.M
3		Same as above	Same as step 1	Same as a above	Same as above	Oscilloscope connected to test point TP9	T6	T6 adjustment; make the lineality of "S" curve best
4	Band coverage	Non	Non	High end of Dial	Same as above	DC-VTVM connected to 8 pin of tuner	VR4	Adjust the 24.24V to 8 pin of tuner
5		Non	Non	Low end of Dial	Same as above	Same as above	VR3	Adjust the 2.87V to 8 pin of tuner Repeat steps 4 and 5 until no further improvement can be made.
6		FM Antenna	87MHz as small as possible (Modulated)	Low end of Dial	Same as above	Across out put SO3 or SO4 (Refer to Figure 30)	Oscillator coil L4	Adjust for maximum output
7		FM Antenna	109MHz as small as possible (Modulated)	High end of Dial	Same as above	Same as above	Oscillator trimmer TC3	Same as above Repeat steps 6 and 7 until no further improvement can be made
8	Tracking	FM Antenna	90MHz as small as possible	90MHz	Same as above	Same as above	Antenna coil L1 and RF coil L2	Adjust for maximum output
9		FM Antenna	106MHz as small as possible (Modulated)	106MHz	Same as above	Same as above	Antenna trimmer TC1 ant RF trimmer TC2	Same as above 8 ~ 9 Repeat 2 or 3 Times



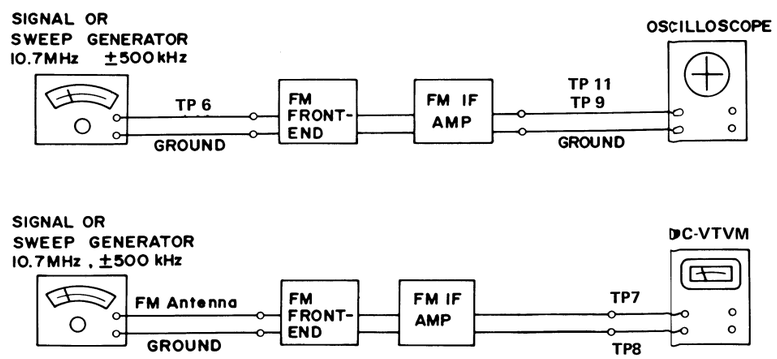


Figure 28 FM ALIGNMENT EQUIPMENT CONNECTIONS

NOTE A

Five kings of ceramic filter (CF1, CF2) are available for this set. The difference of central frequency from each other can be known by the color indication. The table below shows such a difference of IF and S curve, depending upon the color indications of the ceramic filter (CF1, CF2).

Central Frequency	D	Black	10.64MHz ± 30kHz
	B	Blue	10.67MHz ± 30kHz
	A	Red	10.70MHz ± 30kHz
	C	Orange	10.73MHz ± 30kHz
	E	White	10.76MHz ± 30kHz

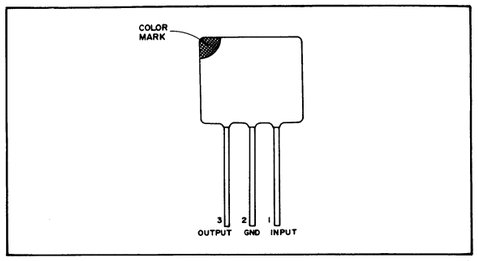


Figure 29

FM STEREO ALIGNMENT (Refer to Figure 30)

PROCEDURE NUMBER	Test Stage	Signal or Sweep Generator			Dial Pointer	Selector Setting (SW1)	Meter Connection	Adjustment	Remarks
		Connection	Frequency	Modulation					
1	MPX	FM signal generator connected to the FM antenna terminal through 300 ohms dummy	19 kHz (60dB)	Mod. 10% pilot signal Mod. 10%	98 MHz	Function switch (U-FM position)	Connect the frequency counter (or oscilloscope) to TP10. (12 pin of IC-2	VR1	Adjust so that the frequency becomes 19.00 kHz. (In case an oscilloscope is connected to the test point TP10, adjust the signals to be 19 kHz by using Lissajou's waveform.)
2	MPX	Same as above	98 MHz	Stereo Mod. (1000 Hz) L only	98 MHz	Same as above	Across channel R output load	VR2	Make the L to R cross-talk minimum

Output level of FM signal generator which is modulated by a FM stereo signal generator shall be 1000μV (60dB).

If without the frequency counter, proceed with the alignment as follows. While recieving a FM stereo signal, turn the VR1 until the P.L.L. will be locked (when it is locked, the stereo indicator will be lit). Then, reversely turn the VR1 halfway and fix it.

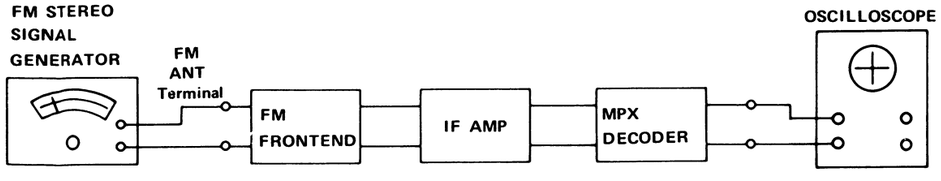


Figure 30 FM/FM STEREO ALIGNMENT EQUIPMENT CONNECTIONS

FM PRE-SET METER ADJUSTMENT (Refer to Figure 31)

1. Touch the FM pre-set tuning control knob "U1" by hand. Then the LED at its center lights up.
2. Set the output of signal generator to 92 MHz, and while turning the knob "U1", adjust so that the reading of tuning meter reaches its maximum.
3. Adjust by use of VR6 so that the FM pre-set meter reads 92 MHz.
4. Next, touch the FM pre-set tuning control knob "U2" by hand. Then, the LED of the knob "U1" goes out and the LED of the knob "U2" lights up instead.
5. Set the output of signal generator to 104 MHz, and while turning the FM pre-set tuning control knob "U2" adjust so that the reading of tuning meter reaches its maximum.
6. Turn VR5 to adjust so that the FM pre-set meter reads 104 MHz.
7. Conduct the above-mentioned steps 1 to 6 surely, and further steps 1, 3, 4 and 6 two or three times repeatedly in this order to confirm the FM pre-set meter reads 92 MHz and 104 MHz, respectively.

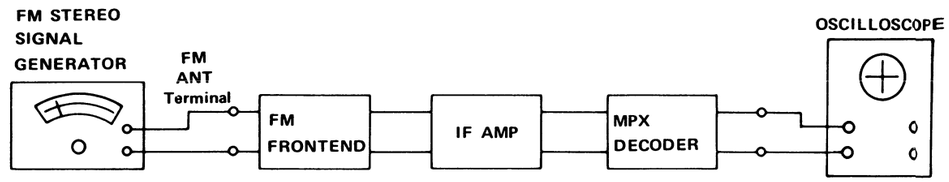


Figure 31 FM PRE-SET METER ADJUSTMENT

CIRCUIT DISCRIPTION
TOUCH IC SECTION (IC–801, IC–802)

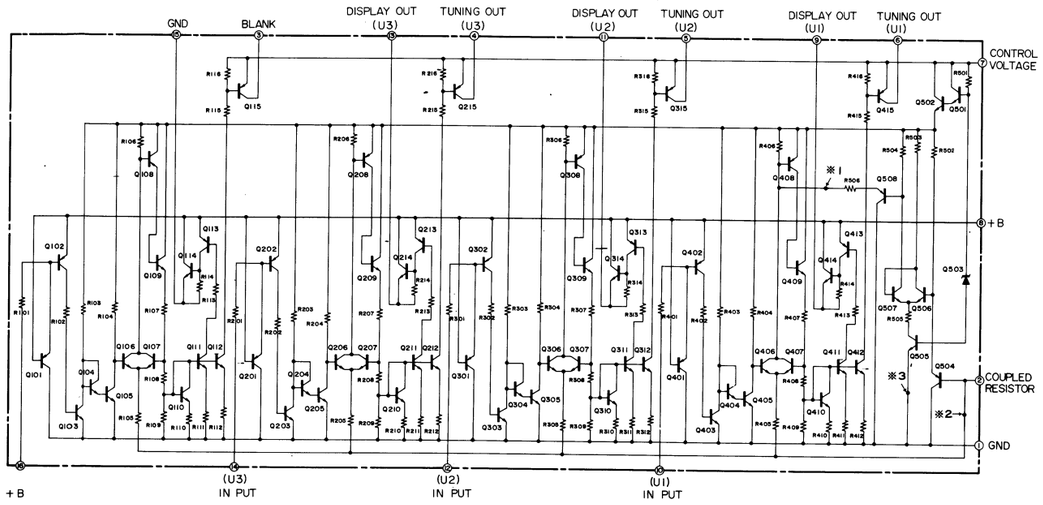


Figure 32

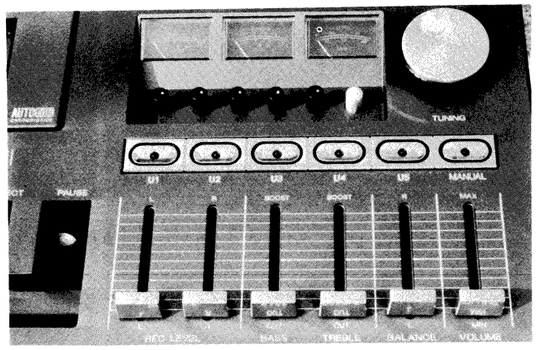


Figure 33

■ Reason why IC-802 is actuated to turn on the LED of U1 (preset botton) but IC-801 is not actuated at all on power supply.
(See Figure 32).
As no current runs to pin (2) of IC-802 on turning the unit on, the potential at the base of Q504 reaches 0 (zero). Consequently, there occurs such a string of actions as Q504 ON → Q506 OFF → Q507 ON → Q508 ON, and further, the following actions take place dut to voltage drop in R406; Q408 ON → Q409 ON → Q407 ON. This makes the potential at pin (2) positive, which causes voltage drop in R502 (= 62kΩ) to turn off the emitter of Q504 immediately. As a result, the following string of actions take place; Q506 ON → Q507 OFF → Q508 OFF. Here, R409 receives current enough to turn on Q408 because the resistance at pin (2) is set at small value, which keeps Q407 turned ON.
Q410, Q411 and Q412 are turned ON one after another to turn ON Q413 and Q414 serving as LED drive dircuit.
The current from Q414 flows into the LED touch plate through pin (9) to make the LED of U1 light up and turn ON Q415, turning output circuit.
Through the above-mentioned process the LED of U1 lights up on power supply, where potential at pin (2) is set in a pair.
Action of Q504 also prevents that all the memory are cleared due to misoperation. As long as no voltage is applied to pin (2), Q504 is immediately turned ON to turn on the LED of U1 as mentioned above.
As to IC-801, as points *1, *2 and *3 are not connected with each other, the circuit does not function. Therefore, any channels do not function even if the unit is turned ON.

■ Reason why touching preset buttons selects the corresponding channels.
[Operational explanation of changeover from U1 (in operation) to U2]
If preset button "U2" is touched, preset terminal of U2, pin (12), is grounded through high resistance of fingertip, which causes the following actions; Q302 ON → Q303 ON. Q305 is turned OFF through Q304 which has been already conducted. Consequently, base potential of Q306 rises to turn it ON. A voltage of about 4.9V (a voltage developed at pin (2) with preset botton touched) is applied to a resistance of pin (2) due to current passing through Q306. Due to this current and a voltage drop in R306 (= 1.9K), Q308 and thus Q309 are turned ON, and a voltage determined by R307, R308 and R309 is applied to the base of Q307. Here, this voltage is named $V_{B}307$.
Under such state a voltage at the emitter of Q407 for U4 is increased nearly to 4.9V, and therefore Q407 is turned off to change over the channel from U1 to U2.

At the final stage of changeover operation (immediately before the preset button is released from finger) the emitter potentials at Q306 and Q307 drop abruptly, but as Q307 receives a current of base voltage $V_{B}307$ it is not turned off even if Q306 is turned OFF. As a result, Q310 to Q315 are kept turned ON to retain U2. At this time the voltage applied to the resistor of pin (2) is stabilized at 3V (a voltage which is developed at pin (2) when U2 is retained).
When channel is further shifted, the above-mentioned action is repeated; the existing channel is cleared at 4.9V to put the next channel in operation instead, where the voltage at pin (2) reaches 3V.

■ Parallel connection of IC-801 and IC-802
Parallel connection of IC-802 (1 pin.) plus IC-801 (plural) including the resistor at pin (2) provides four channels. If an IC-802 is used, channel returns to channel 1 whenever the unit is turned on, which provents misoperation securely. If only an IC-801 is used, however, any channel is out of operation, resulting in misoperation.

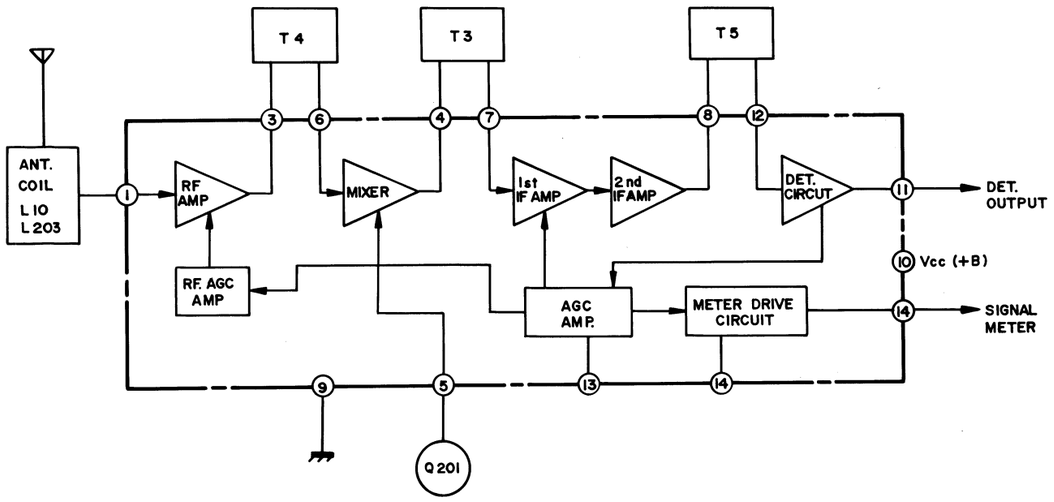


Figure 34 BLOCK DIAGRAM (IC–3)

AM SECTION (Refer to Figure 34)

An AM signal enters the unit through ferrite bar antenna L10 (for MW/LW) or SW antenna coil L203, and the signal fed to pin (1) of IC for AM, IC-3, is amplified by IC-3, and is fed to MIXER stage through pin (3) and T4. T4 serves to prevent IF frequency interference. AM IFT (T3) with ceramic filter serves as a load for MIXER. After converted to intermediate frequency by oscillation frequency fed from local OSC, Q201, the signal is amplified by IF amplifier and further detected through AM IFT coil T5. This IC incorporates meter drive output circuit pin (14) and AGC circuit.

FM TUNER SECTION (Refer to Figure 35)

The tuner of this set is a preset tuner. In the preset tuner variable capacitive diode is used instead of variable capacitor. Variable capacitive diode is kind of diode, in which the stray capacity between its poles varies in accordance with DC voltage applied to the poles. Since the tuning knob is interlocked to the volume, when the tuning knob is operated the volume also operates to apply the voltage to the variable capacitive diode. The more the voltage applied to the variable capacitive diode D3 increases, the more the stray capacity between poles decreases. Local oscillation frequency depends upon oscillation coil L4 and stray capacity of D3 and when the voltage applied to D3 becomes smaller, also becomes smaller, while "fo" larger, Antenna tuning frequency and RF tuning frequency are determined as the above.

Like this, the preset tuner is so disigned that it selects the receiving frequency by applying DC voltage to D1 – D4. This tuner is provided with five preset tuning controls enabling preset tuning in addition to the manual tuning described above. The preset tuner is provided with five pieces of preset tuning controls whose knobs have LED's on the top center respectively. The knobs are tach preset knobs for selecting stations. If any of the knobs is touched, its LED light up, and preset tuning stands by, while turning the tuning knob corresponding to the concerned channel, tune in to desired station. RF signal received by balanced 300-ohm FM antenna is amplified at FET Q1, and is mixed in frequency by FM OSC of Q3, and Q2. The signal, coverted into 10.7 MHz IF signal, is fed to T1 of IFT. The frequency preset station is indicated on FM pre-set meter. In manual tuning, however, the needle of FM pre-set meter does not swing at all.

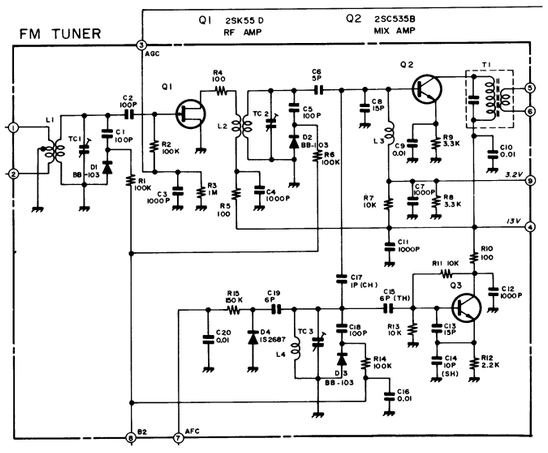


Figure 35

FM IF SECTION

Coming from the FM tuner, the IF signal is amplified by the Q1 and then passes through the ceramic filters CF-1 and CF-2. The IF signal is then amplified by the IC-1 which consists of 3 stages differential amplifiers. This IC (IC-1) can control AFC voltage, meter output voltage; forced manural output and muting operation.

FM AGC SECTION

In FM AGC the output of Q4 is partially taken out, and is applied to Q1 gate after subjected to full-wave rectification by D5 and D6.

FM STEREO DEMODULATOR SECTION (IC-2)

This set incorporates a stereo demodulator circuit that comprises IC's with the PLL (Phase Locked Loop) system applied. The PLL (Phase locked Loop) FM demodulator circuit is provided with such characteristecs as mentioned below.

In order to demodulated stereo composite signals, it is necessary to take a 19kHz pilot signal out of the stereo composite signals and to make it a 38kHz signal.

Most of the conventional methods to obtain such a 38kHz signal are frequency doubling ones which utilize anonlinearity of the elements. Compared with the convetional type, the recently developed IC-ed demodulator provides more sufficient separation effects. However, since it also requires 2 or 3 coils like the conventional one, if even one of them is dislocated from the initially adjusted point due to a secular change the separation effects will be deteriorated. Moreover there is such a contradiction that the more the efficiencies of the coils are increased enough to withstand the outer pluse signals like automobil ignition noises, the more the coils suffer secular changes.

To eliminate such disadvantages as above, PLL (Phase Locked Loop) system is employed in the method to make a 38kHz signal using a 19kHz pilot signal.

The PLL system stereo demodulator gives such three merits as:

1. Since the phases of a pilot signal and a 38 kHz signal are automatically made the same with each other, the deterioration of separation effect is strongly minimized.
2. Since only one of variable resistor, being newly employed, plays the role of 2 to 3 piece of convetional coils, troubles of the parts due to secular changes are decreased. In addition, even if this variable resistor is slightly dislocated, the separation effect will never be deteriarated because of the merit as mentioned in 1 by which the automatic phase adjustment is assured.
3. Compared with the conventional one, the PLL system demodulator shows a more noise withstanding characteristec since it has such performances as the selection of frequencies and the continuity of oscillation frequencies (short-time memory), thus assuring a stable stereo demodulation.

FM DETECTION SECTIONS (Quadrature Detector Circuit)

This unit employs "Quadrature Detector" based on newly developed IC (Integrated Circuit), Which is substituted for ration detector and Foster-Seeley's detector that have been so far used. The basic structure of quadrature detector circuit is as shown in Fig. 36.

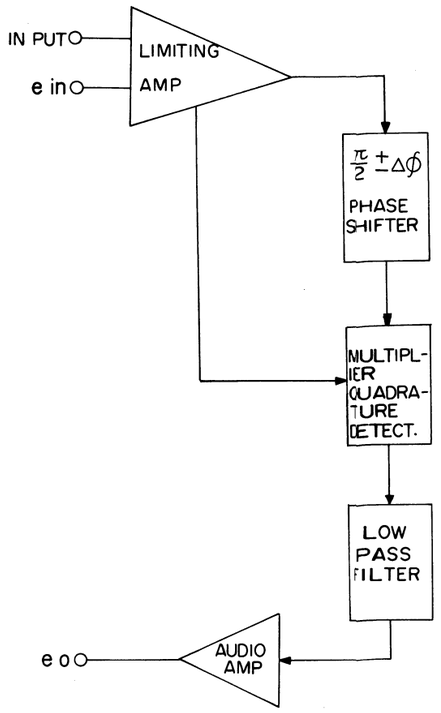


Figure 36

With this detection system, the multiplier quandrature detector circuit receives two types of input signals, one is the signal which has been amplified by the limiting amplifier and another which has passed through the phase shift circuit. (about π/2). Thus, the quadrature detector circuit produces demodulation signal.

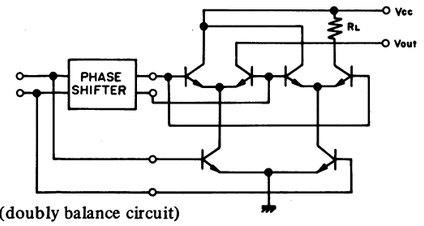
The term "quadrature" is resulted from that the phase difference between these two signal is π/2. The multiplier consists of doubly balance circuit as shown in the following circuit drawing. Phase characteristic of the phase shift Circuits is as shown in Fig. 38.

This circuit is featured by:

(1) Good linearity and low distortion.
(2) Operates on small signal and less higher harmonics.
(3) Wide-band detection of as much as 15MHz.

Therefore, this ciucuit assures low distortion even with the overmodulation of more than 100% thereby reproducing high quality sound.

As to the detector circuit of SG-400H; L15 is phase shift coil and T2 · T3 detection quadrature coil. The output of detector circuit appears at the pin (6) of IC-1 and is supplied to the pin (2) of IC-2 (MULTIPLEX circuit).



(doubly balance circuit)

Figure 37

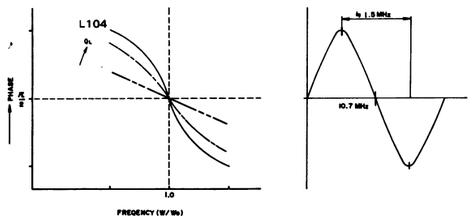


Figure 38

TOUCH CONTROL SECTION

The touch control section consists of two IC's (IC-801 & IC-802), 12V and 33V power source, five pieces of preset controls and touch switch block, and the 33V power source uses ICnized Zener diode. If a button of touch block is lightly touched by a finger, small current flows into the figertip to turn on LED and hold the preset station. Whele the touch botton is touched, a voltage at pin (2) of IC-801 rises from 3V to 4.5V. Thanks to such property the section can reduce unnecessary noise produced in changeover operation by muting FM IF circuit. IC-802 is specially designed so that U1 is in operation whenever the unit is turned on.

As for details refer to "TOUCH IC SECTION (IC-801, IC-802)."

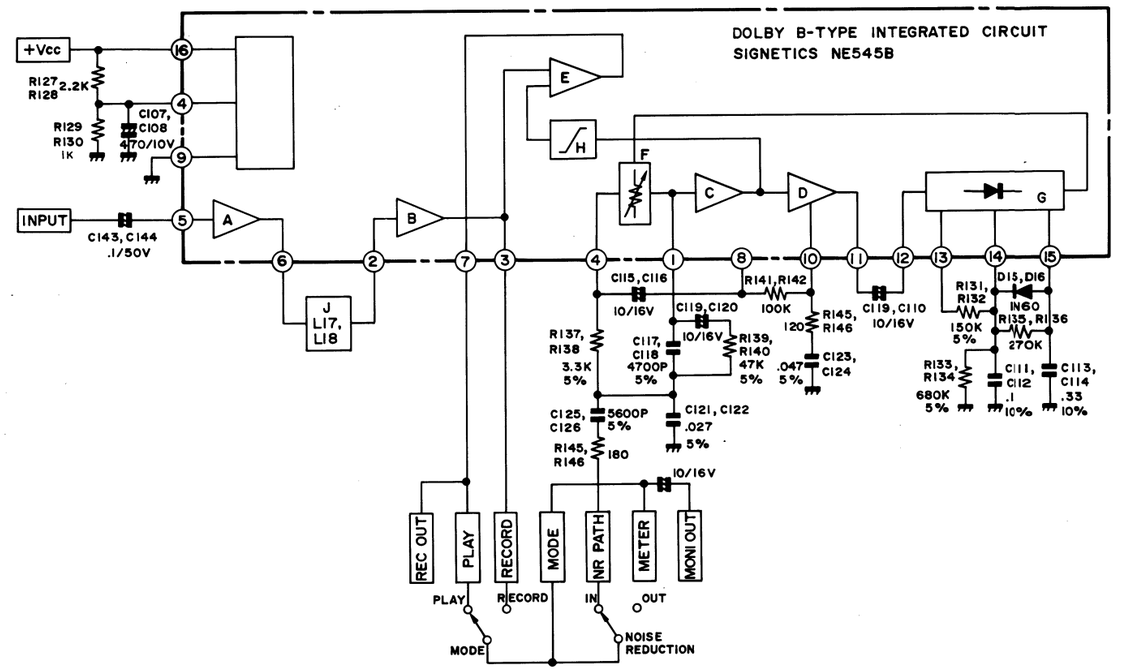


Figure 39

DOLBY NR SECTION

The amplifier circuits (A) and (B) are ordinary type. But the Dolby Summing (E) is an amplifier circuit that inverses only the polarity, having the gain of 1. Dolby Side Chain (F, C, D, G) is high-speed limiter that operate on high- or medium-frequency.

The Fig. 40 shows the input/output characteristic curve of the Dolby Side Chain circuit and the curve varies according to the change of frequency.

The frequency characteristic is as shown in Fig. 41. and it is the same as that of the high-pass filter of 6 dB/octave. The turnover frequency of the curve also varies according to the change of input level.

If the output signal from Dolby Side Chain circuit shown in Fig. 40 or 41 and ordinary signal from the amplifier circuit (B) are supplied to the Dolby Summing (E) circuit, these two signals are added to the each other in the record mode showing a compressor characteristic while they are substracted from the each other in play mode showing an expander characteristic – the input/output characteristic shown in Fig. 42 is obtained at Rec. Amp. terminal.

Dolby Side Chain Circuit

The characteristic of the high-pass filter of 6 dB/octave shown in Fig. 39 is obtained by that the composite impedances with C125 (126), C121 (122), C117 (118), R145 (146), R137 (138) and R139 (140), and the filter impedance are added to the each other to form an attenuator. The input/output characteristic in Fig. 41 is obtained by that DC voltage in proportion to the input is fed back to the attenuator (F). The circuit (C) increases the output of the attenuator to the specified voltage to supply the output to the Dolby Summing Circuit. The circuit (D, G) generates DC voltage and it also controls attack time and recovery time of the limiter.

Simultameously, AC signal is applied to DC voltage to become NF signal being fed to the circuit (F), in order to reduce the distortion. The Fig. 43 represents all the blocks composing of the Dolby Side Chain circuit and shows how they are operating.

Described as above, the Dolby NR circuit compounds linear signal and non-linear signal to produce compressor characteristic in record mode and expander characteristic in play-

back mode – if these two characteristics are mixed, an original linear characteristic is restored. Thus, noise is reduced because high-frequency signal is attenuated when it passes through the expander circuit.

Cautions on Repairing

1) The following parts out of those which are used for Dolby circuit P.W.B. should be at less than the error of ± 5%.
   F137, R138, R139, R140, R131, R132, R133, R134
   C125, C126, C121, C122, C137, C138, C141, C142
2) The following parts should be those with the error of of within ± 10%.
   C111, C112, C113, C114
   * If the following tapes are used under DOLBY NR mode, high-frequency may be lowered. BASF standard tape, and BASF CrO_2 tape.
   * If you repair the unit owned by an user who employs the tape of a particular brand, it is recommendable when servicing to use the same tape as used by the user.

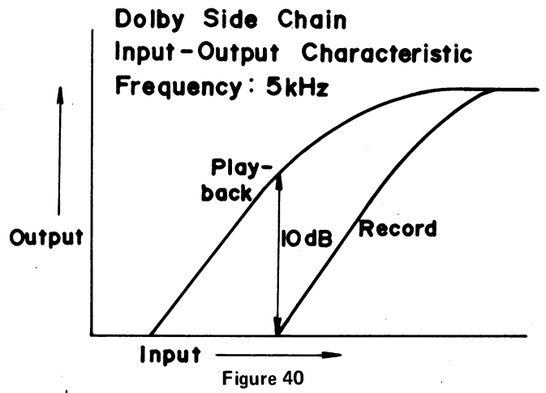


Figure 40

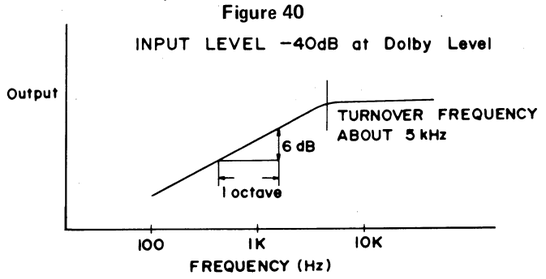


Figure 41

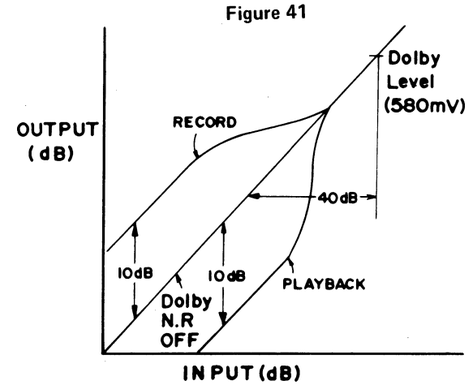


Figure 42

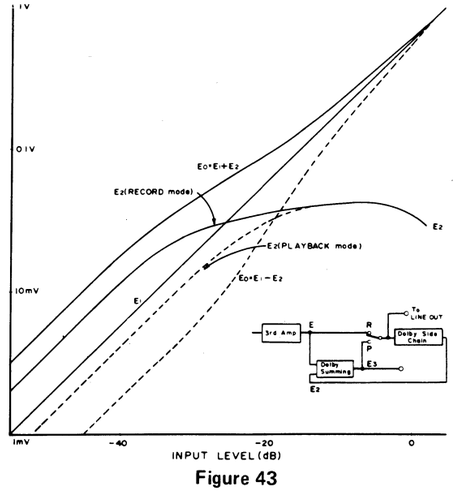


Figure 43

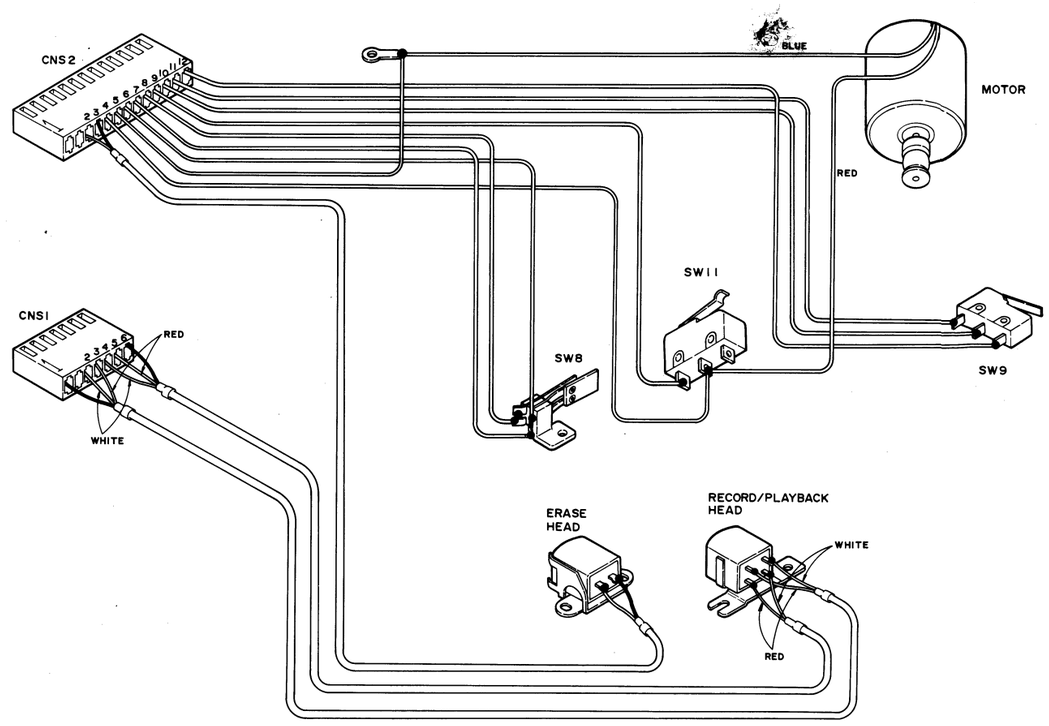


Figure 44 WIRING CONNECTION OF CASSETTE TAPE DECK

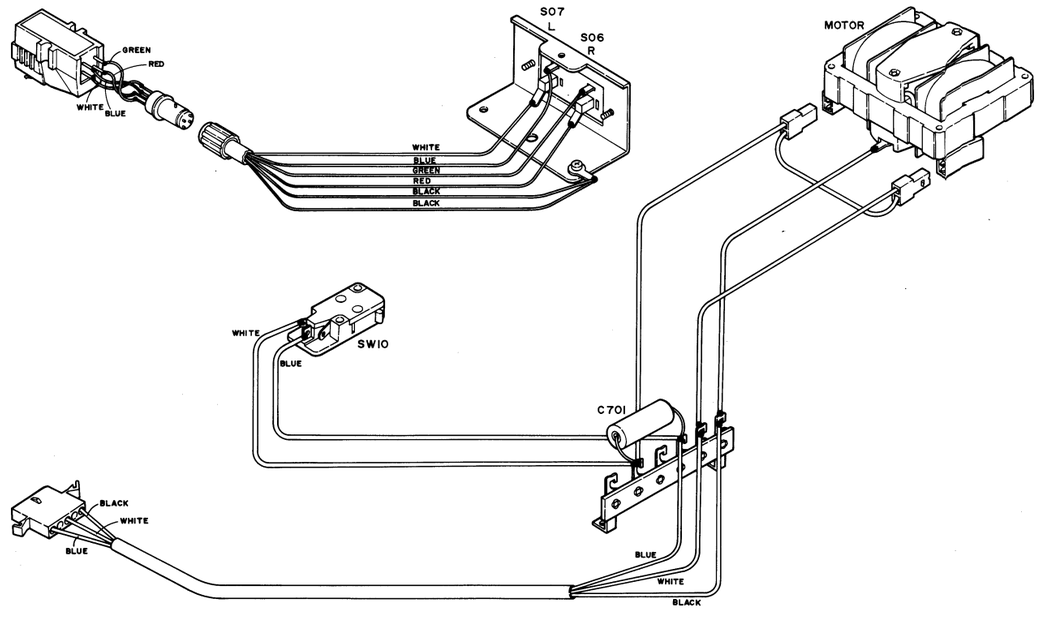


Figure 45 WIRING CONNECTION OF RECORD PLAYER

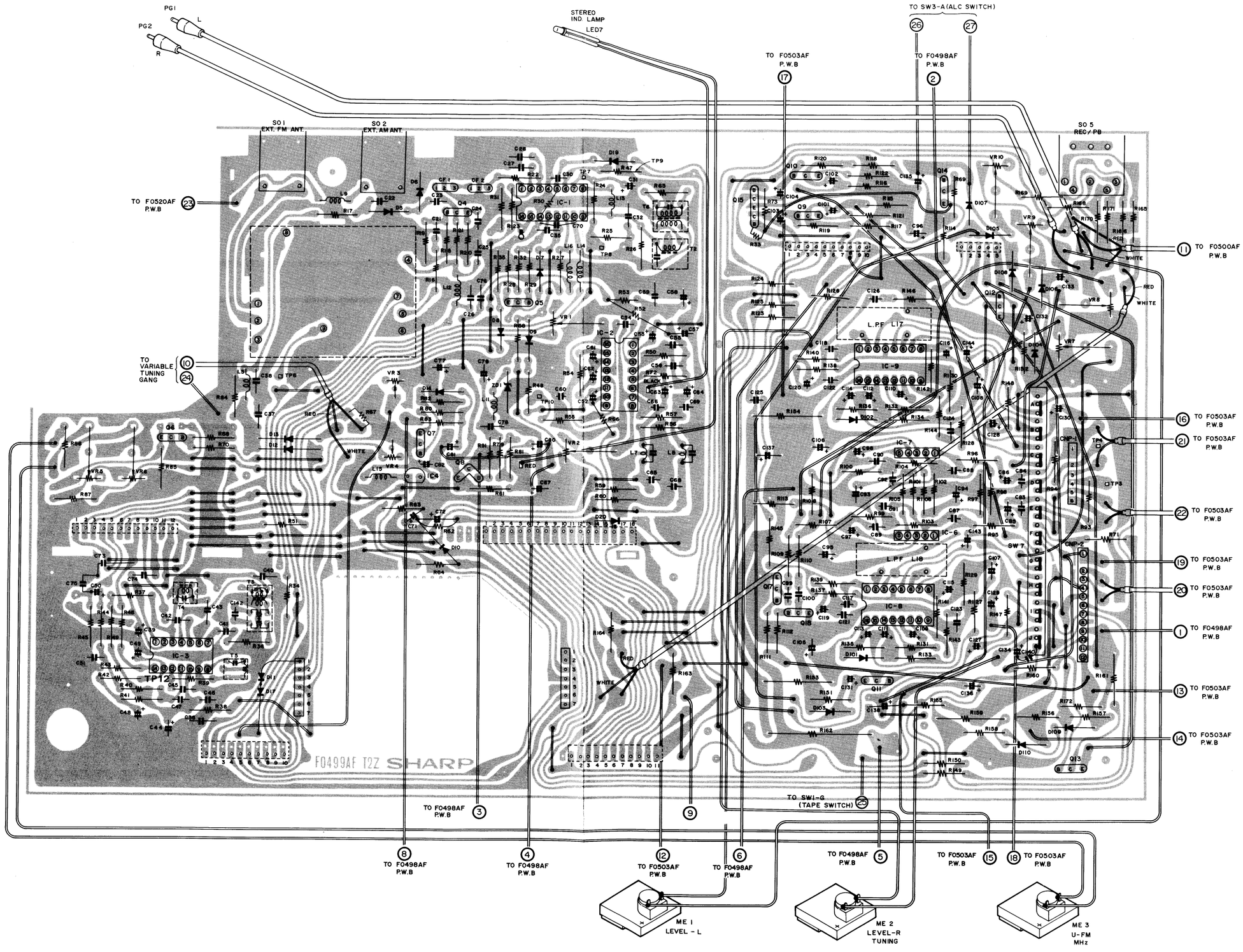


Figure 46 WIRING SIDE OF TUNER/PRE AMP. P.W. BOARD

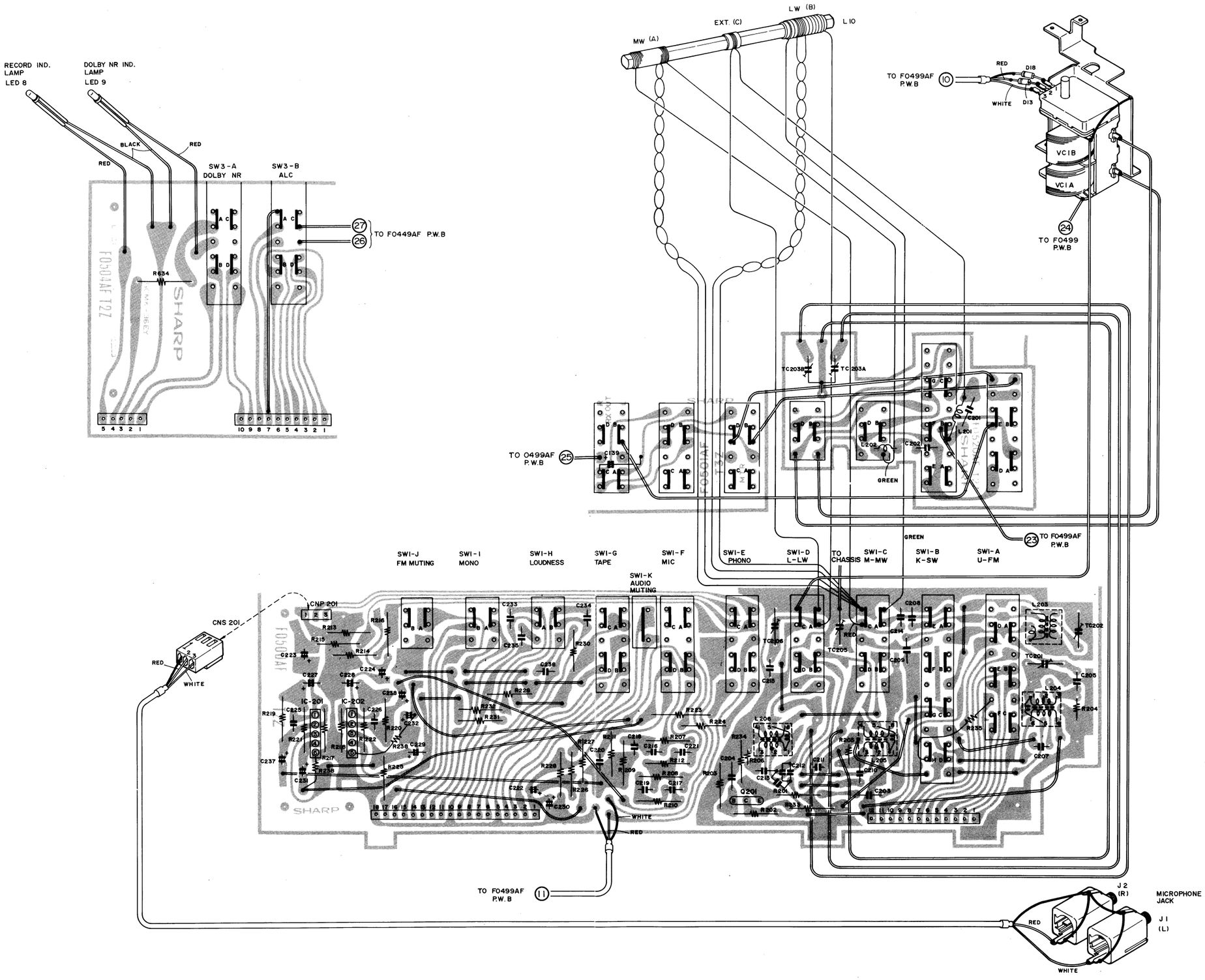


Figure 47 WIRING SIDE OF EQUALIZER/ALC/DOLBY NR SW/RF SW P.W. BOARD

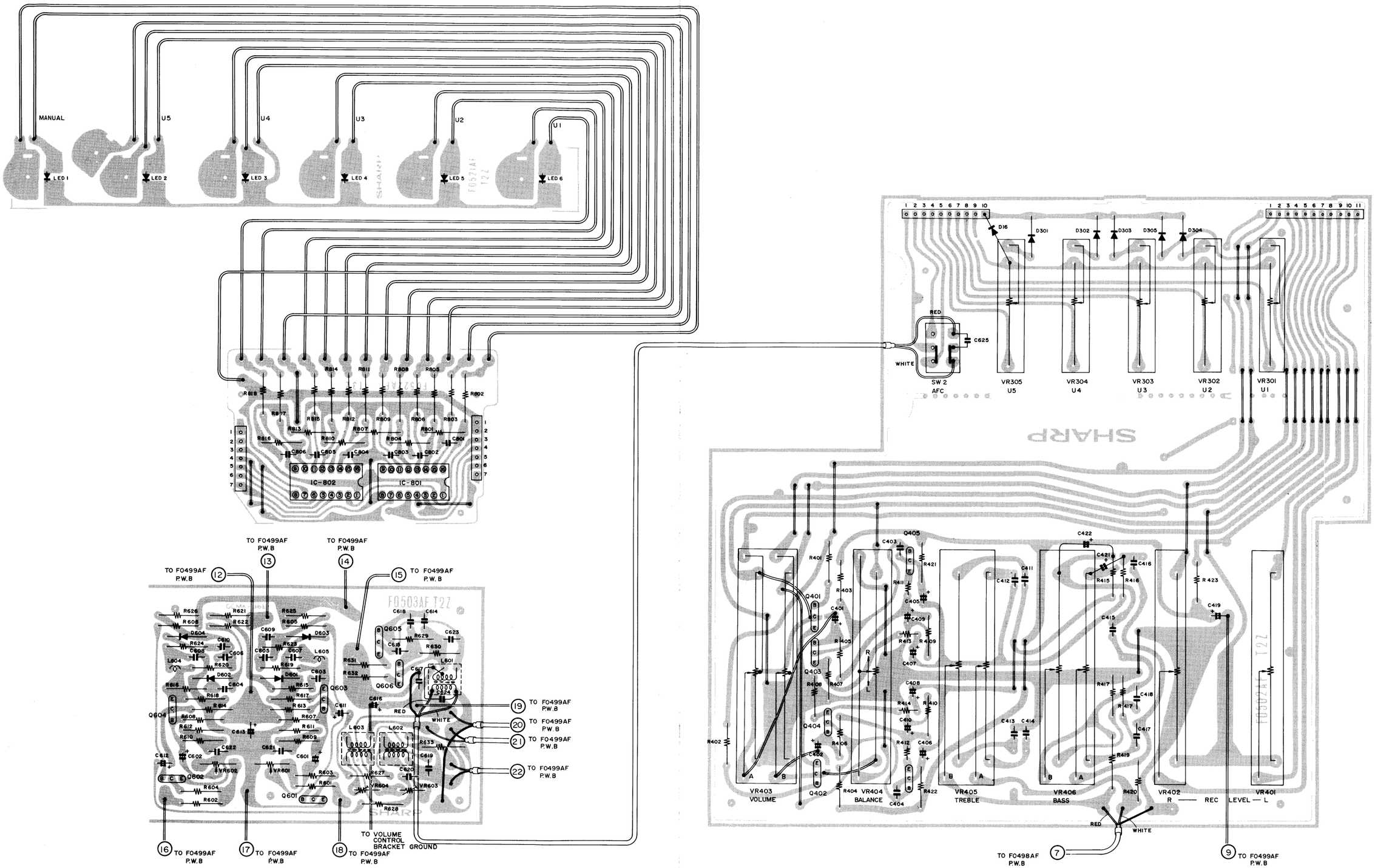


Figure 48 WIRING SIDE OF TOUCH SWITCH IC/TOUCH SWITCH/RECORD OSC./CONTROL P.W. BOARD

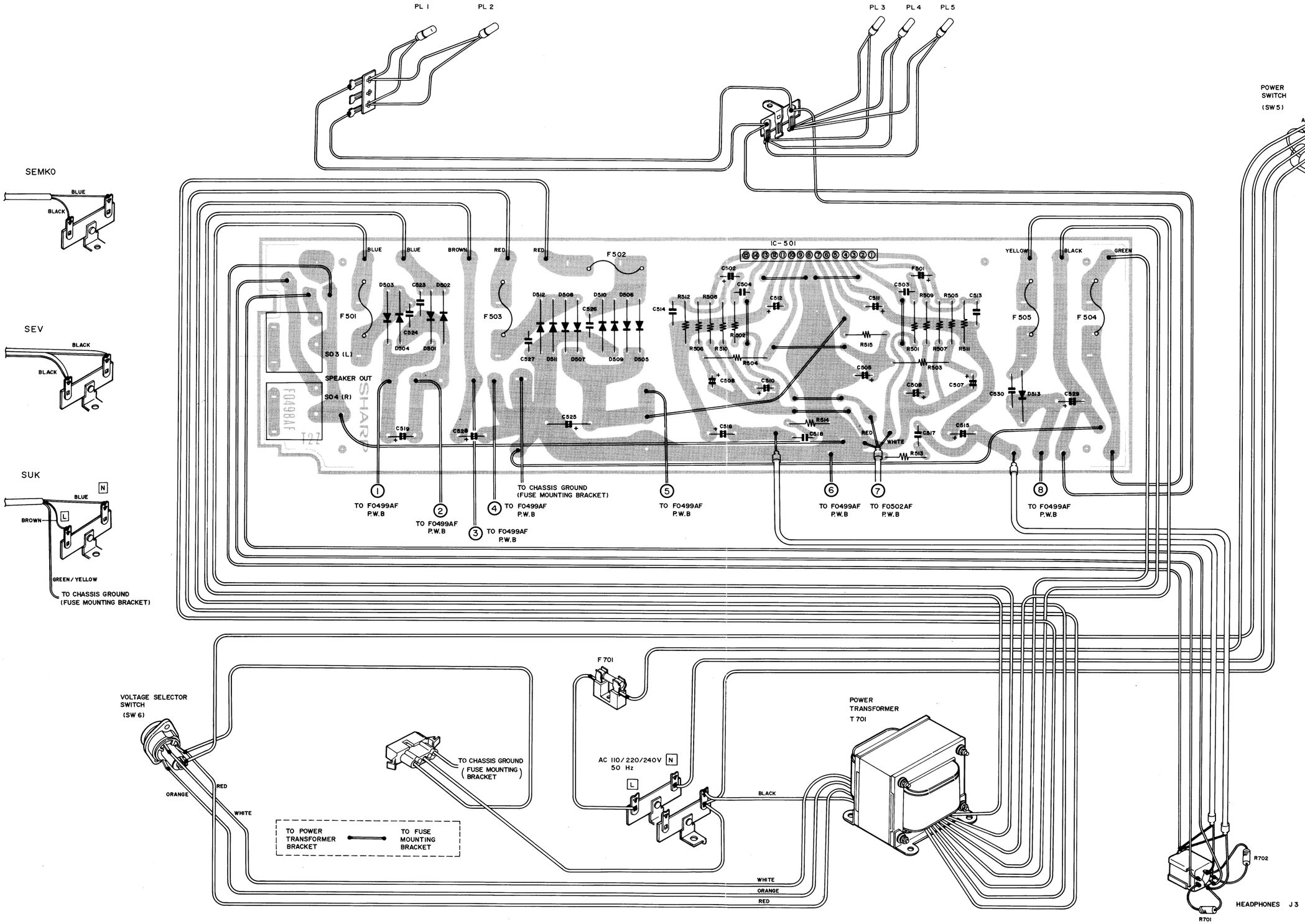


Figure 49 WIRING SIDE OF MAIN AMP. P.W. BOARD

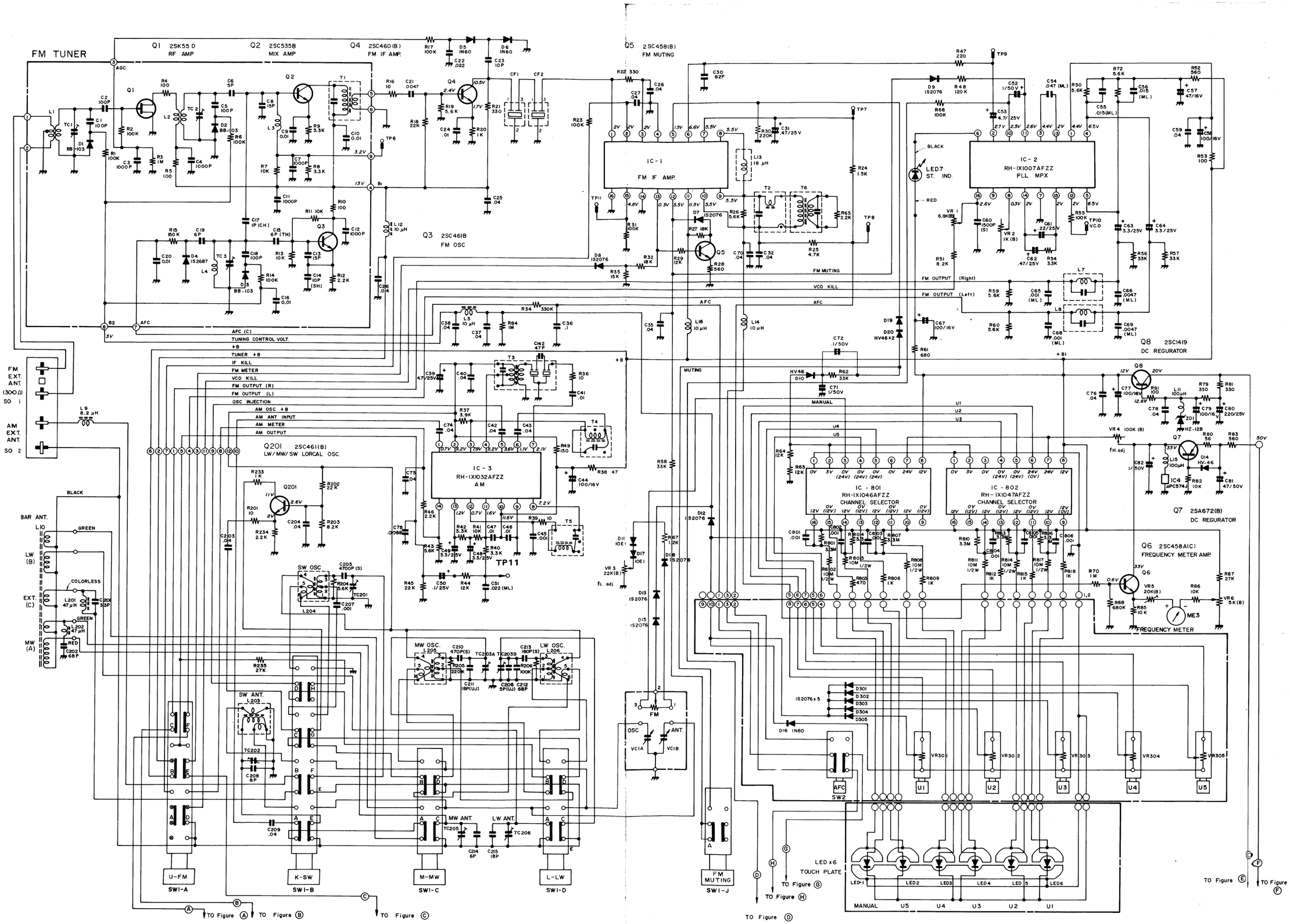
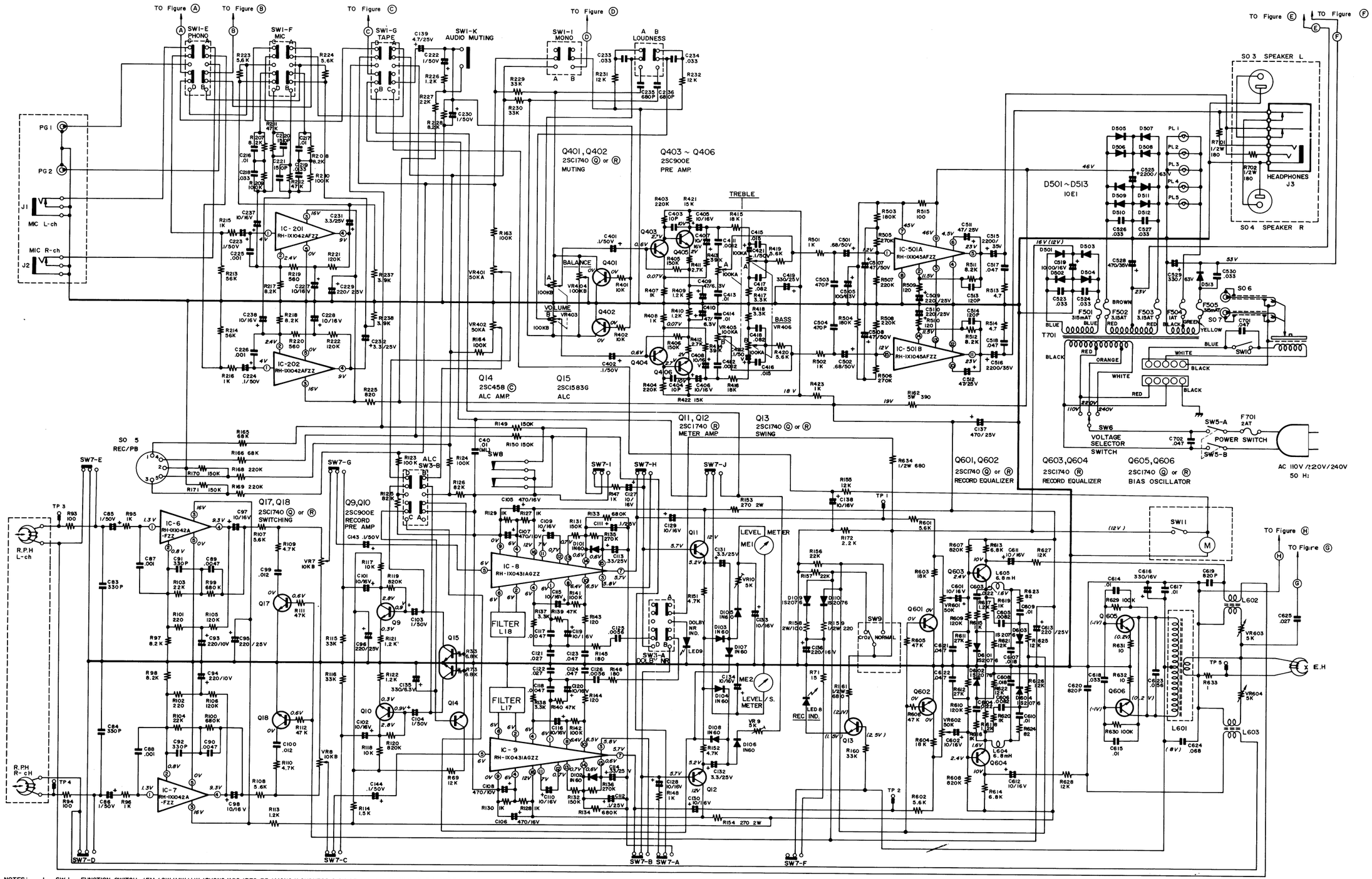


Figure 50 SCHMATIC DIAGRAM OF TUNER (Specifications or wiring diagrams of this model are subject to change for the improvement without prior notice.)



NOTES;

1. SW 1 FUNCTION SWITCH (FM / SW / MW / LW / PHONO / MIC / REC-PB / MONO / LOUDNESS & NOISE KILLER) SHOWN IN FM POSITION.
2. SW 2 AFC. SWITCH SHOWN IN OFF POSITION.
3. SW 3 DOLBY NR SWITCH SHOWN IN OFF POSITION.
4. SW 4 ALC. SWITCH SHOWN IN OFF POSITION.
5. SW 5 POWER SWITCH SHOWN IN OFF POSITION.
6. SW 6 VOLTAGE SELECTOR SWITCH SHOWN IN 240V POSITION.
7. SW 7 RECORD/ PLAYBACK SWITCH SHOWN IN PLAYBACK POSITION.
8. SW 8 AUDIO MUTING SWITCH SHOWN IN STOP POSITION.
9. SW 9 AUTO TAPE SELECTOR SWITCH SHOWN IN CrO2 POSITION.
10. SW 10 PHONO MOTOR SWITCH SHOWN IN STOP POSITION.
11. SW 11 MOTOR SWITCH SHOWN IN STOP POSITION.
12. VOLTAGE IN PARENTHES TAKEN WITH SW7 IN RECORD POSITION AND SW10 IN ON POSITION.
13. VOLTAGE WITHOUT PARENTHES TAKEN WITH SW1 IN FM POSITION AND SW7 IN PLAYBACK POSITION.
14. ALL RESISTOR ARE 1/4 W UNLESS OTHERWISE NOTES.

Figure 51 SCHMATIC DIAGRAM OF AMP. (Specifications or wiring diagrams of this model are subject to change for the improvement without prior notice.)

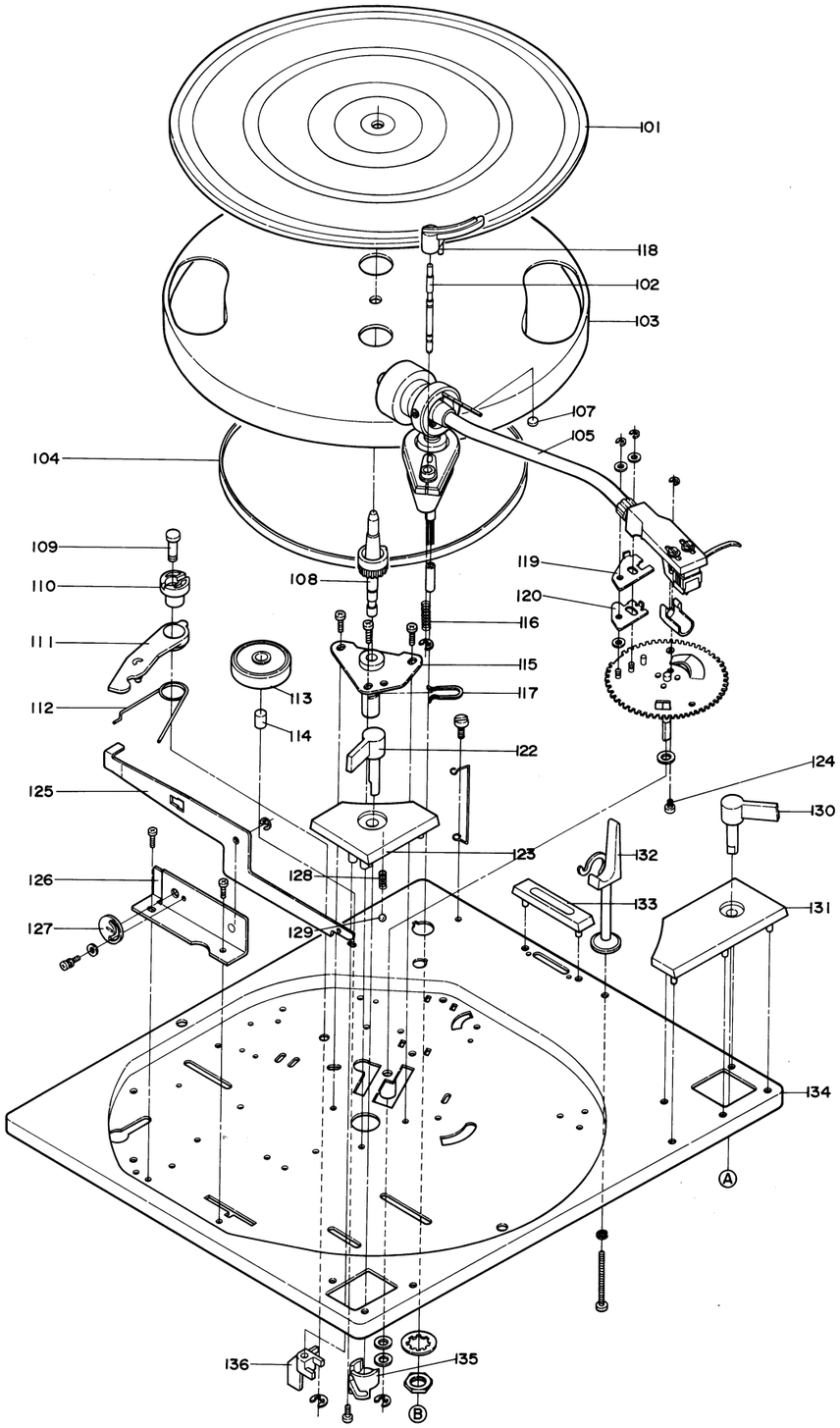


Figure 54 RECORD PLAYER EXPLODED TOP VIEW

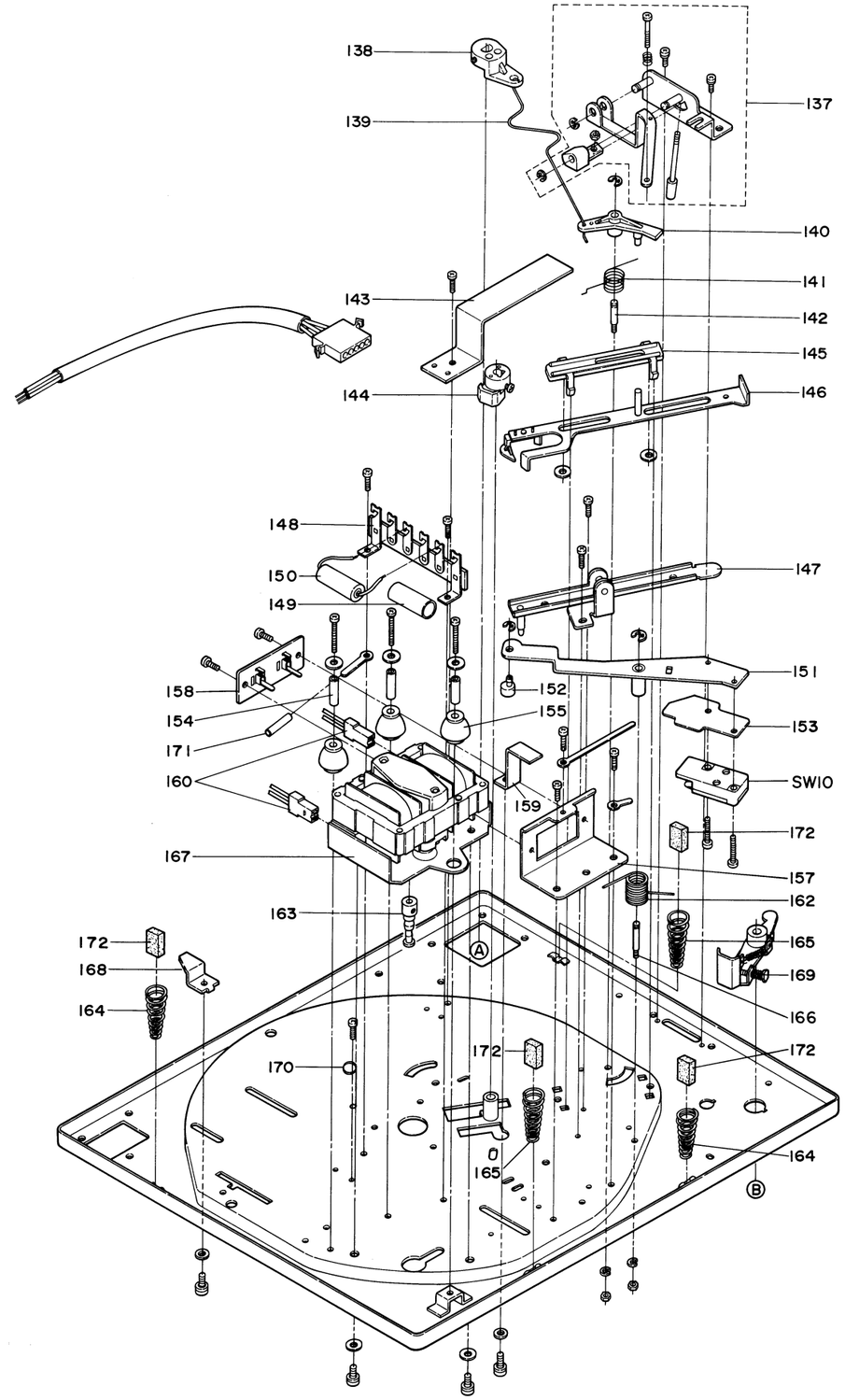


Figure 55 RECORD PLAYER EXPLODED BOTTOM VIEW

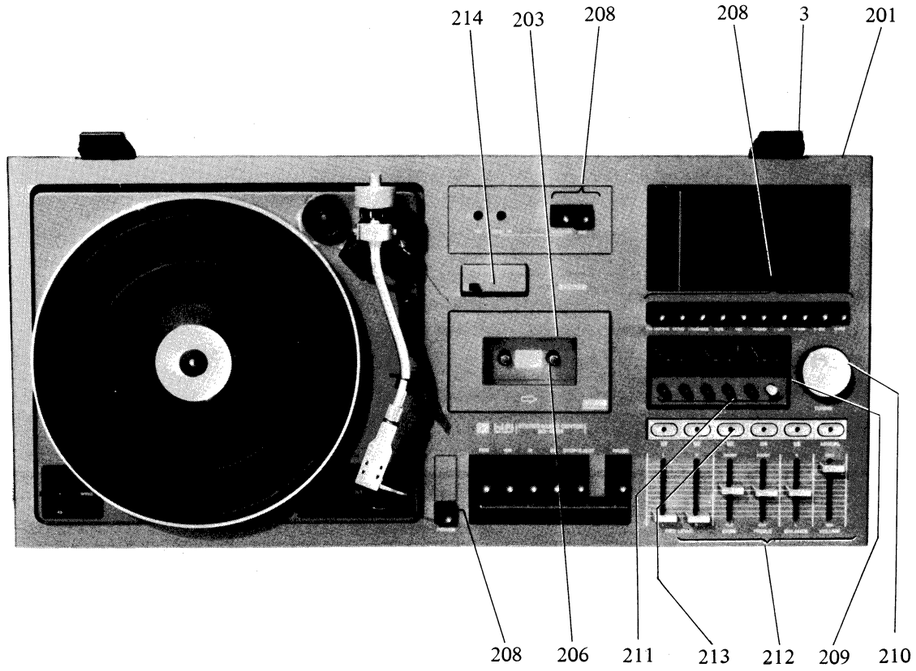


Figure 56 CABINET TOP VIEW

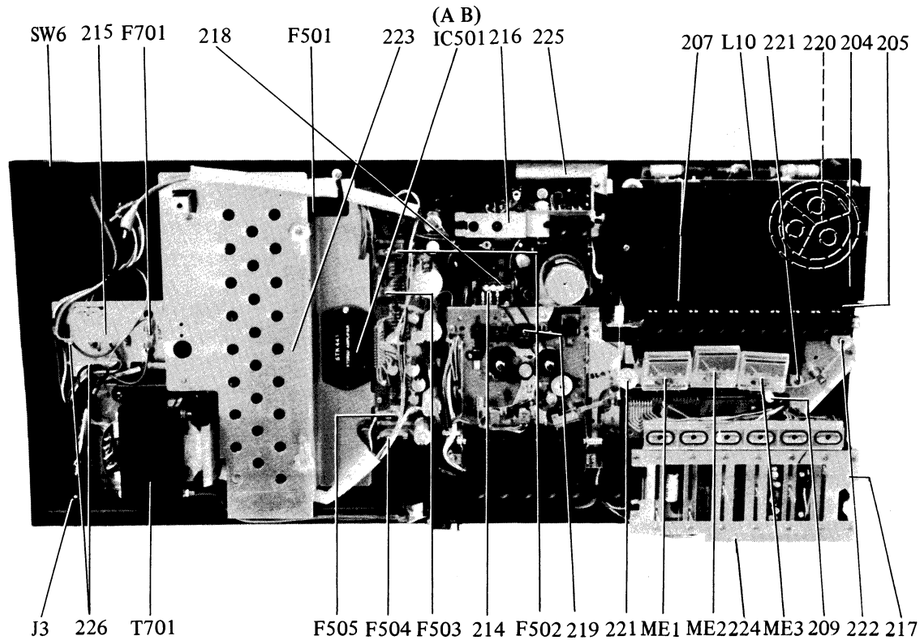


Figure 57 CABINET EXPLODED TOP VIEW

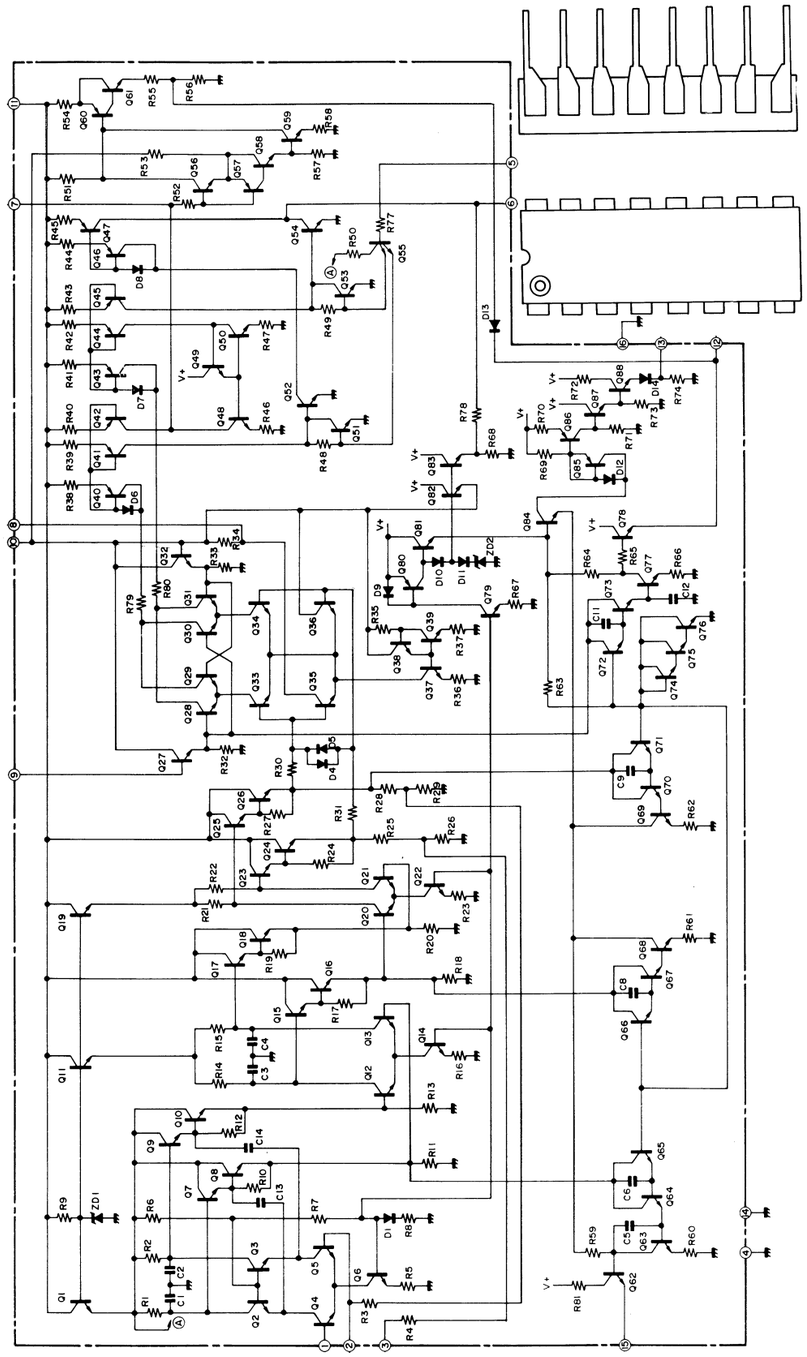


Figure 58 EQUIVALENT CIRCUIT OF INTEGRATED CIRCUIT (IC-1)

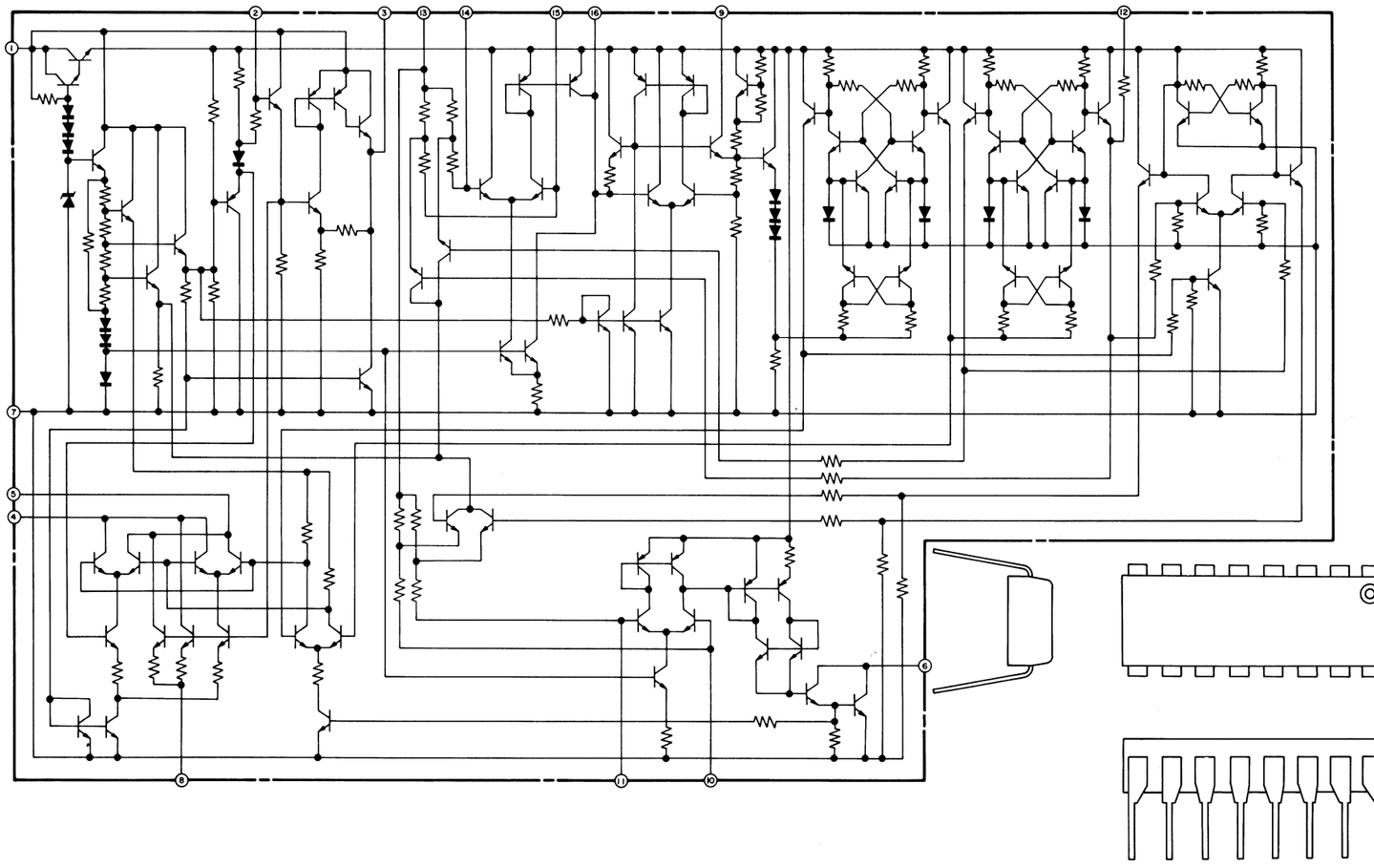


Figure 59 EQUIVALENT CIRCUIT OF INTEGRATED CIRCUIT (IC-2)

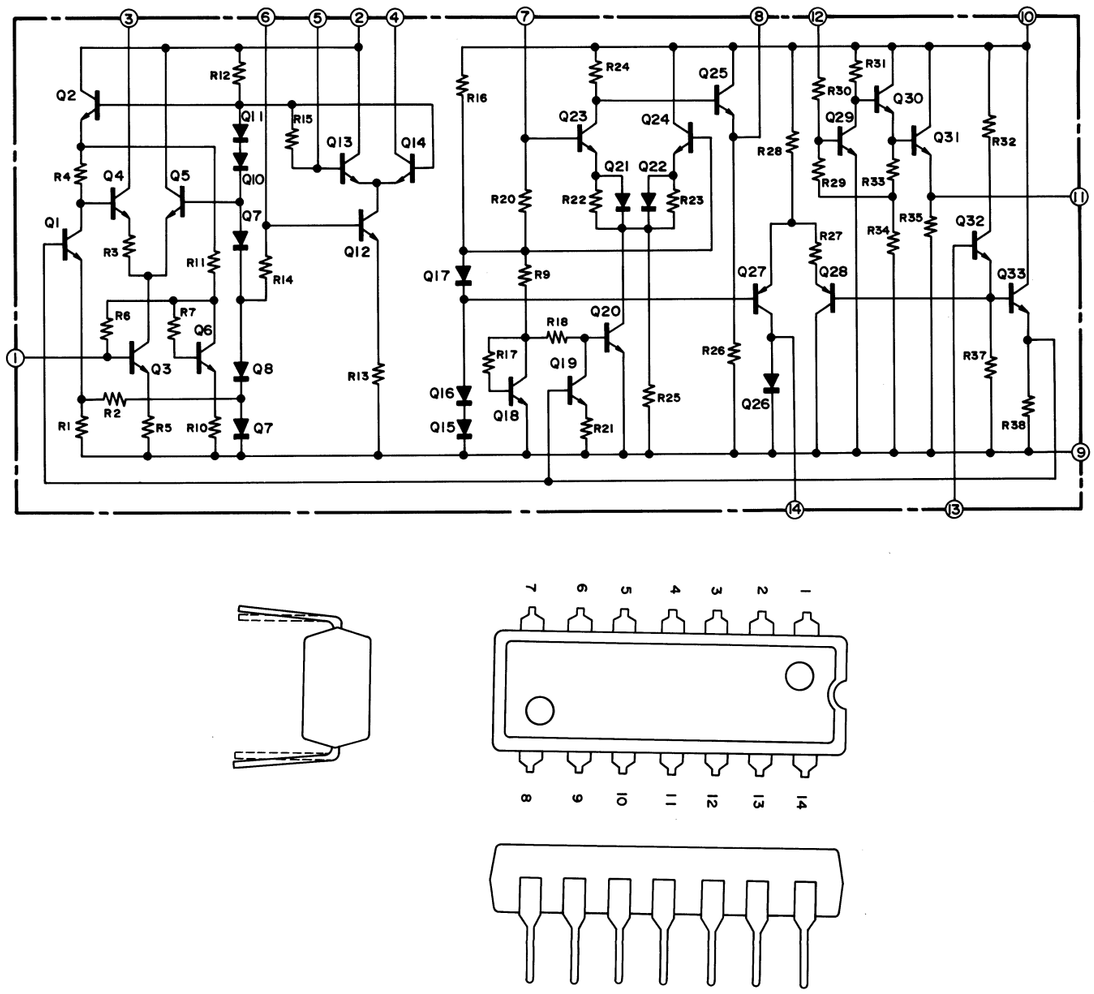


Figure 60 EQUIVALENT CIRCUIT OF INTEGRATED CIRCUIT (IC-3)

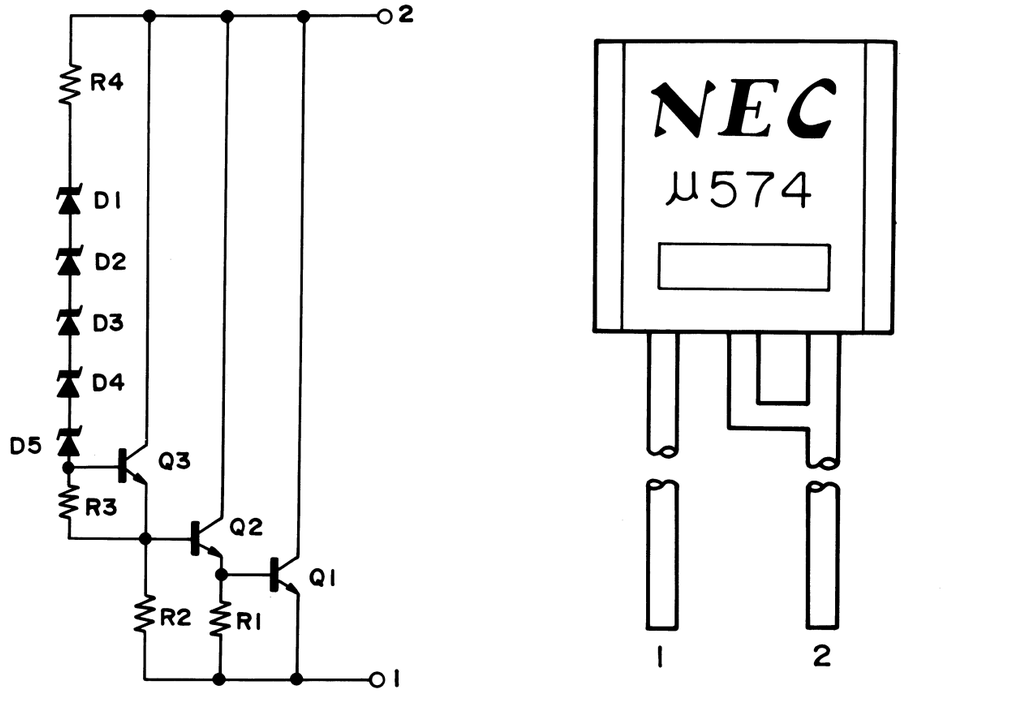


Figure 61 EQUIVALENT CIRCUIT OF INTEGRATED CIRCUIT (IC-4)

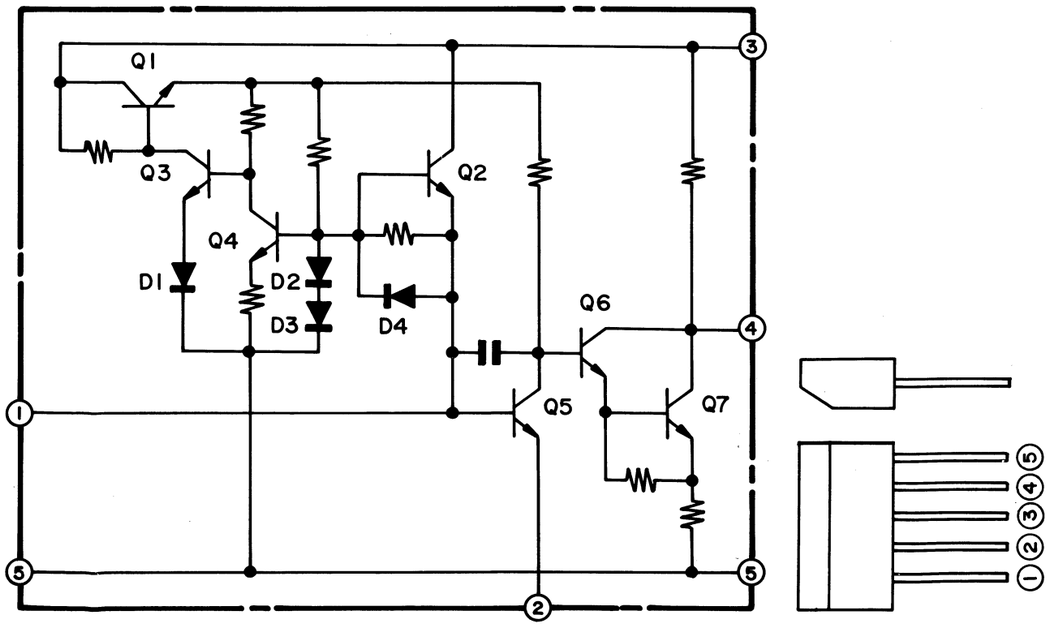


Figure 62 EQUIVALENT CIRCUIT OF INTEGRATED CIRCUIT (IC-6, IC-7, IC-201, IC-202)

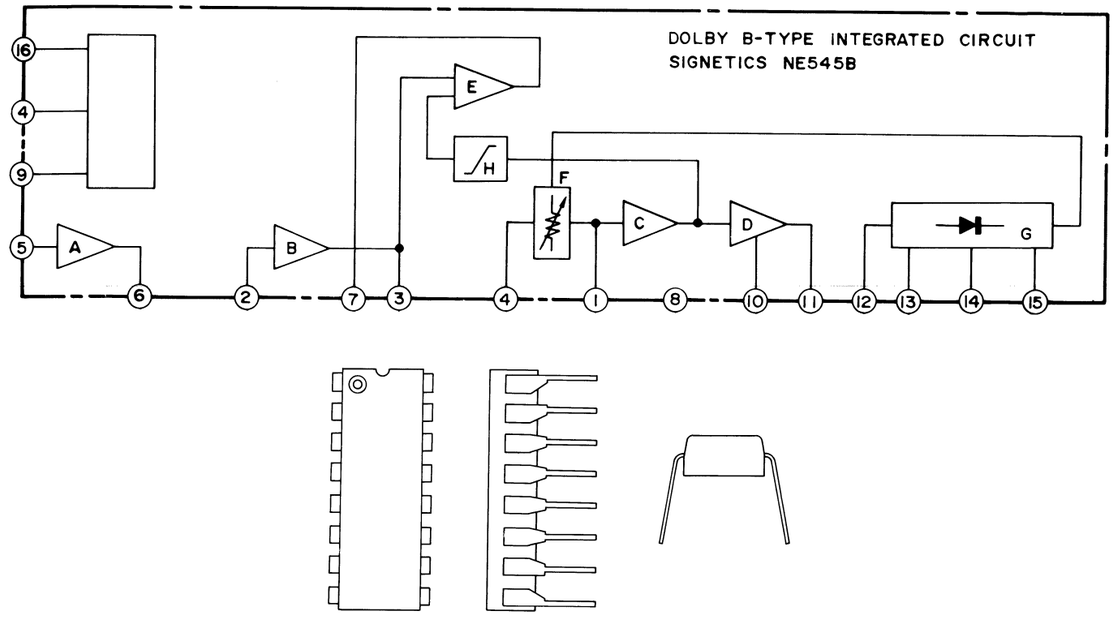


Figure 63 EQUIVALENT CIRCUIT OF INTEGRATED CIRCUIT (IC-8, IC-9)

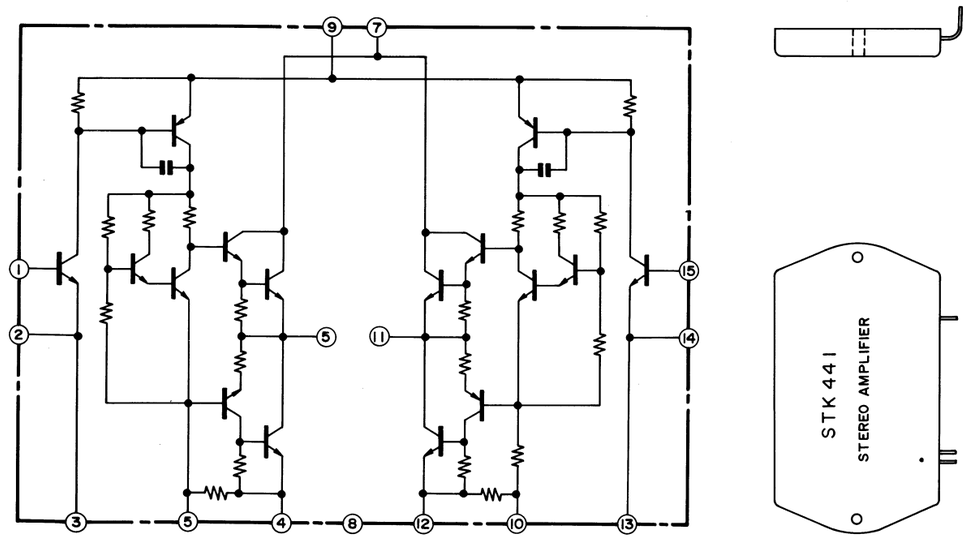


Figure 64 EQUIVALENT CIRCUIT OF INTEGRATED CIRCUIT (IC-501A, IC-501B)

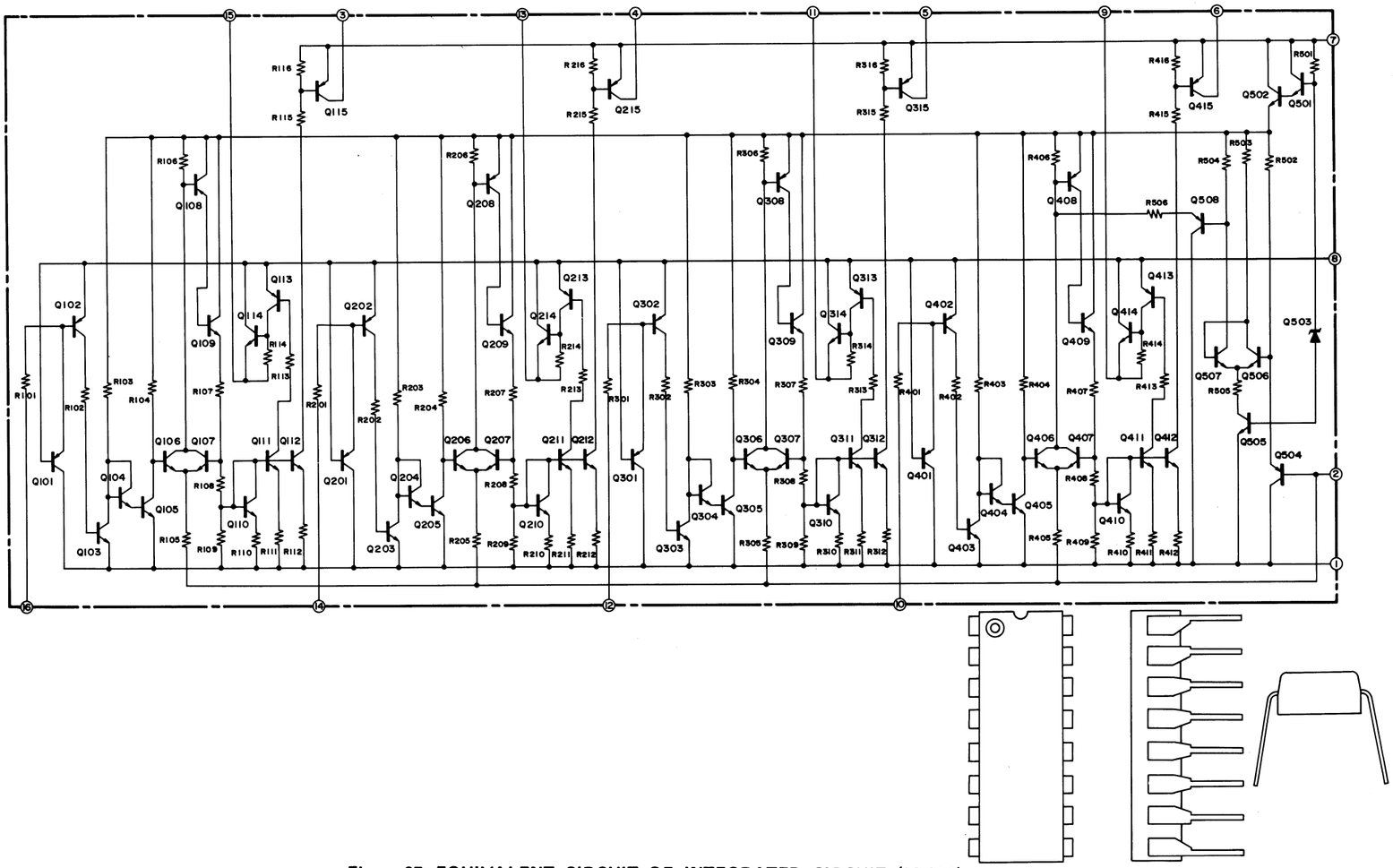


Figure 65 EQUIVALENT CIRCUIT OF INTEGRATED CIRCUIT (IC-801)

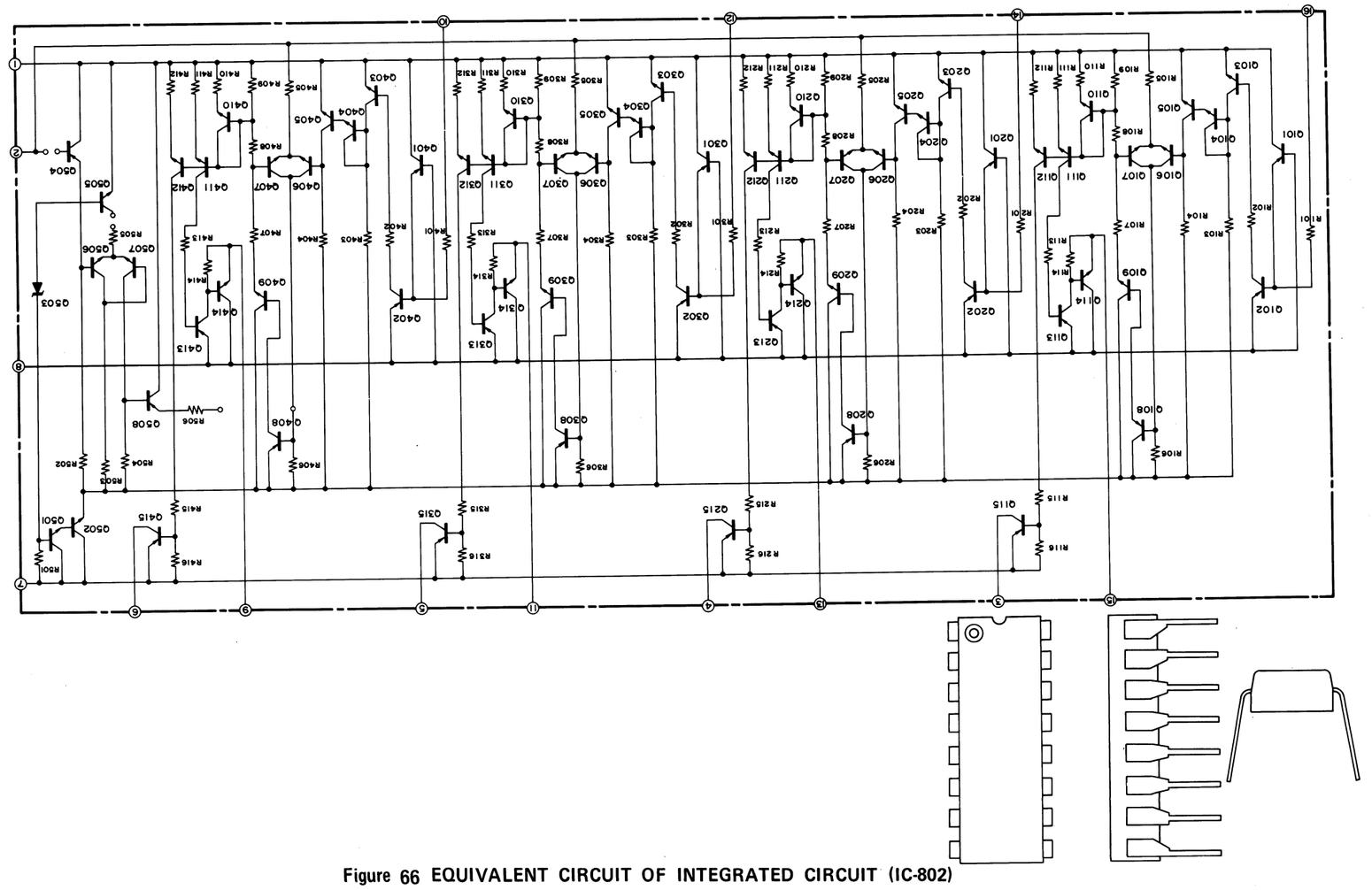


Figure 66 EQUIVALENT CIRCUIT OF INTEGRATED CIRCUIT (IC-802)

REPLACEMENT PARTS LIST

"HOW TO ORDER REPLACEMENT PARTS"
To have your order filled promptly and correctly, please furnish the following informations.
1. MODEL NUMBER 2. REF. NO.
3. PART NO. 4. DESCRIPTION

REF. NO.	PART NO.	DESCRIPTION	CODE
	TRANSISTORS		
Q4	VS2SC460-B/-1	FM IF Amp.	AF
Q5	VS2SC458-B/-1	FM Muting	AF
Q6	VS2SC458AC/-1	Frequency Meter Amp.	-
Q7	VS2SA672-B/-1	DC Regulator	AE
Q8	VS2SC1419-K1F	DC Regulator	AG
Q9, Q10	VS2SC900-E/-1	Record Pre-Amp.	-
Q11, Q12	VS2SC1740R/-1	Meter Amp.	AC
Q13	VS2SC1740Q/-1	Swing	AC
Q14	VS2SC458-B/-1	ALC Amp.	AF
Q15	VS2SC1583G-1F	ALC Amp.	AF
Q17, Q18	VS2SC1740Q/-1	Switching	AC
Q201	VS2SC461-B/-1	AM Local Oscillator	AF
Q401, Q402	VS2SC1740Q/-1	Muting	AC
Q403, Q404	VS2SC900-E/-1	Pre-Amp.	-
Q405, Q406	VS2SC900-E/01	Pre-Amp.	-
Q601, Q602	VS2SC1740Q/-1	Record Equalizer	AC
Q603, Q604	VS2SC1740R/-1	Record Equalizer	AC
Q605, Q606	VS2SC1740Q/-1	Bias Oscillator	AC
	DIODES		
D5	VHD1N60////-1	FM AGC	AB
D6	VHD1N60////-1	FM AGC	AB
D7	VHD1S2076//-1	FM Muting	AB
D8	VHD1S2076//-1	FM Meter	AB
D9	VHD1S2076//-1	FM Mono	AB
D10	VHVHV46-G//-1	Audio Muting	AD
D11	VHD10E1////-1	Temperature Regulator	AC
D12	VHD1S2076//-1	Meter	AB
D13	VHD1S2076//-1	Temperature Regulator	AB
D14	VHVHV46-G//-1	Voltage Regulator	AD
D15	VHD1N60////-1	Temperature Regulator	AB
D16	VHD1N60////-1	Temperature Regulator	AB
D17	VHD10E1////-1	Temperature Regulator	AC
D18	VHD1S2076//-1	Negative Current Protection	AB
D19	VHVHV46-G//-1	Temperature Regulator	AD
D20	VHVHV46-G//-1	Temperature Regulator	AD
D101, D102	VHD1N60////-1	Switching	AB
D103, D104	VHD1N60////-1	Voltage Doubler	AB
D105, D106	VHD1N60////-1	Rectifier	AB
D107, D108	VHD1N60////-1	Voltage Doubler	AB
D109, D110	VHD1S2076//-1	Switching	AB
D301, D302	VHD1S2076//-1	Protection, Negative Current	AB
D304, D303	VHD1S2076//-1	Protection, Negative Current	AB
D305	VHD1S2076//-1	Protection, Negative Current	AB
D501, D502	VHD10E1////-1	Recitifier	AC
D503, D504	VHD10E1////-1	Rectifier	AC
D505, D506	VHD10E1////-1	Rectifier	AC
D507, D508	VHD10E1////-1	Rectifier	AC
D509, D510	VHD10E1////-1	Rectifier	AB
D511, D512	VHD10E1////-1	Rectifier	AB
D513	VHD10E1////-1	Rectifier	AB
D601, D602	VHD1S2076//-1	Switching	AB
D603, D604	VHD1S2076//-1	Switching	AB
LED1	VHPGL32PG//-1	L.E.D., MANUAL, (Green)	AF
LED (2 ~ 6)	VHPGS32AR//-1	L.E.D.,U1 - U5, (Red) Indicators	AD
LED7	RH-PX1001AFZZ	L.E.D., FM STEREO	AE
LED8, LED9	RH-PX1001AFZZ	L.E.D., REC/DOLBY NR Indicators	AE
ZD1	VHEHZ12-BBK-1	Zener	AD
	TRANSFORMERS		
T2	RCILD0055AFZZ	Quadrature	AE
T3,	RCILI0209AFZZ	AM IFT(455kHz)	AH
T4	RCILI0222AFZZ	IF Trap Filter	AD
T5	RCILI0219AFZZ	AM IFT(455kHz)	AE
T6	RCILD0056AFZZ	Quadrature	AE
T701	RTRNP0440AFZZ	Power	BH
	COILS		
L5	VP-LH100M0000	10uH, Choke	AB
L7	RCILI0011SGZZ	19kHz Low Pass Filter	AG
L8	RCILI0011SGZZ	19kHz Low Pass Filter	AG
L9	VP-LH8R2M0000	8.2uH, AM EXT. ANT.	AG
L10	RCILA0387AFZZ	Antenna (LW & MW)	AM
L11	VP-LH101M0000	100uH, Noise Reduction	AB
L12	VP-LH100M0000	10uH, Choke	AB
L13	RCILZ0052AFZZ	18uH, Phase shift	AB

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
L14	VP-LH100M0000	10uH, Oscillator Reduction	AB
L15	VP-LH101M0000	100uH, Noise Reduction	AB
L16	VPOLH100M0000	10uH, Choke	AB
L17, L18	RCILL0051AFZZ	Dolby Low Pass Filter	AL
L201	VP-LH470M0000	47uH, Spurious	AB
L202	VP-LH470M0000	47uH, Spurious	AB
L203	RCILA0052AGZZ	SW Antenna	AD
L204	RCILB0391AFZZ	SW OSC	AD
L205	RCILB0387AFZZ	MW OSC	AD
L206	RCILB0388AFZZ	LW OSC	AD
L601	RCILB0086AGZZ	Bias Oscillation	AF
L602, L603	RCILB0376AFZZ	Bias Step Up	AE
L604, L605	RCILZ0019AGZZ	6.8mH, Record Equalizer	AD
	INTEGRATED CIRCUIT		
IC1	RH-IX1005AFZZ	FM IF Amp. and Delector (Quadrature)	AT
IC2	RH-IX1007AFZZ	PLL MPX · Demodulation	AQ
IC3	RH-IX1032AFZZ	AM	AK
IC4	RH-IX1048AFZZ	Zener	AH
IC6, IC7	RH-IX1042AFZZ	Playback Pre-Amp.	AG
IC8, IC9	RH-IX0431AGZZ	Dolby Noise Reduction	AY
IC201, IC202	RH-IX1042AFZZ	Pre-Amp.	AG
IC501 (A , B)	RH-IX1045AFZZ	Power Amp.	BA
IC801	RH-IX1046AFZZ	Channel Selector	AR
IC802	RH-IX1047AFZZ	Channel Selector	AR
	CONTROLS		
VR1	RVR-M0103AFZZ	6.8K ohm (B), VCO Adjust	AC
VR2	RVR-M0012AFZZ	1Kohm (B), Separation Adjust	AC
VR3	RVR-M0080AGZZ	22K ohm (B), Frequency Low Adjust	AG
VR4	RVR-M0065AGZZ	4.7K ohm (B), Frequency High Adjust	AF
VR5	RVR-M0128AFZZ	20K ohm (B), Frequency Meter Adjust	AC
VR6	RVR-M0126AFZZ	5K ohm (B), Frequency Meter Adjust	AC
VR7, VR8	RVR-M0046AGZZ	10K ohm (B), Playback Sensitivity Adjust	AD
VR9, VR10	RVR-M0062AGZZ	5K ohm (B), Meter Sensitivity Adjust	AC
VR301	RVR-Z0058AFZZ	100K ohm (B), U1, Pre-set Tuning	AG
VR302	RVR-Z0058AFZZ	100K ohm (B), U2, Pre-set Tuning	AG
VR303	RVR-Z0058AFZZ	100K ohm (B), U3, Pre-set Tuning	AG
VR304	RVR-Z0058AFZZ	100K ohm (B), U4, Pre-set Tuning	AG
VR305	RVR-Z0058AFZZ	100K ohm (B), U5, Pre-set Tuning	AG
VR401, VR402	RVR-P0054AFZZ	50K ohm (A), REC. LEVEL	AG
VR403	RVR-Q0052AFZZ	100K ohm (B), VOLUME	AL
VR404	RVR-Q0051AFZZ	100K ohm (B), BALANCE	AH
VR405	RVR-P0055AFZZ	100K ohm (A), TREBLE	AK
VR406	RVR-P0055AFZZ	100K ohm (A), BASS	AK
VR601, VR602	RVR-M0011AGZZ	50K ohm (B), Record Sensitivity	AC
VR603, VR604	RVR-M0094AGZZ	5K ohm (B), Bias Adjustment	AC
VC1 (A , B)	RVC-Z0001AGZZ	Variable Tuning Gang VC1A; AM OSC. VC1B; AM ANT.	AW
TC201	RTO-H1053AFZZ	SW OSC.	AD
TC202	RTO-H1007AFZZ	SW ANT.	AC
TC203 (A , B)	RTO-H2051AFZZ	MW/LW OSC.	AD
TC205	RTO-H1007AFZZ	MW ANT.	AC
TC206	RTO-H1007AFZZ	LW ANT.	AC
	CERAMIC FILTERS		
CF1	RFILF0009AFZZ	FM IF Filter	AE
CF2	RFILF0009AFZZ	FM IF Filter	AE
	RESISTORS (Unless otherwise specified resistors are 1/4W, ±5%, Carbon type)		
R16	VRD-ST2EE100J	10 ohm	AA
R17	VRD-ST2EE104J	100K ohm	AA
R18	VRD-ST2EE223J	22K ohm	AA
R19	VRD-ST2EE562J	5.6K ohm	AA
R20	VRD-ST2EE102J	1K ohm	AA
R21	VRD-ST2EE331J	330 ohm	AA
R22	VRD-ST2EE331J	330 ohm	AA
R23	VRD-ST2EE104J	100K ohm	AA
R24	VRD-ST2EE152J	1.5K ohm	AA
R25	VRD-ST2EE472J	4.7K ohm	AA
R26	VRD-ST2EE562J	5.6K ohm	AA
R27	VRD-ST2EE183J	18K ohm	AA
R28	VRD-ST2EE561J	560 ohm	AA
R29	VRD-ST2EE123J	12K ohm	AA
R30	VRD-SU2EY224J	220K ohm	AA
R31	VRD-ST2EE104J	100K ohm	AA
R32	VRD-ST2EE183J	18K ohm	AA
R33	VRD-ST2EE682J	6.8K ohm	AA
R34	VRD-ST2EE334J	330K ohm	AA
R35	VRD-ST2EE153J	15K ohm	AA
R36	VRD-ST2EE100J	10 ohm	AA
R37	VRD-ST2EE392J	3.9K ohm	AA
R38	VRD-ST2EE470J	47 ohm	AA
R39	VRD-ST2EE100J	10 ohm	AA
R40	VRD-ST2EE332J	3.3K ohm	AA
R41	VRD-ST2EE103J	10K ohm	AA
R42	VRD-ST2EE332J	3.3K ohm	AA
R43	VRD-ST2EE562J	5.6K ohm	AA
R45	VRD-ST2EE223J	22K ohm	AA
R46	VRD-ST2EE222J	2.2K ohm	AA
R47	VRD-ST2EE221J	220 ohm	AA
R48	VRD-ST2EE124J	120K ohm	AA
R49	VRD-ST2EE151J	150 ohm	AA
R50	VRD-ST2EE562J	5.6K ohm	AA
R51	VRD-ST2EE822J	8.2K ohm	AA
R52	VRD-ST2EE561J	560 ohm	AA
R53	VRD-ST2EE101J	100 ohm	AA
R54	VRD-ST2EE332J	3.3K ohm	AA
R55	VRD-ST2EE104J	100K ohm	AA

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
R56	VRD–ST2EE333J	33K ohm	AA
R57	VRD–ST2EE333J	33K ohm	AA
R58	VRD–ST2EE333J	33K ohm	AA
R59	VRD–ST2EE562J	5.6K ohm	AA
R60	VRD–ST2EE562J	5.6K ohm	AA
R61	VRD–ST2EE681J	680 ohm	AA
R62	VRD–ST2EE333J	33K ohm	AA
R63	VRD–ST2EE123J	12K ohm	AA
R64	VRD–ST2EE123J	12K ohm	AA
R65	VRD–ST2EE222J	2.2K ohm	AA
R66	VRD–ST2EE104J	100K ohm	AA
R67	VRD–ST2EE122J	1.2K ohm	AA
R68	VRD–ST2EE684J	680K ohm	AA
R69	VRD–ST2EE123J	12K ohm	AA
R70	VRD–ST2EE105J	1Meg ohm	AA
R71	VRD–ST2EE150J	15 ohm	AA
R72	VRD–ST2EE562J	5.6K ohm	AA
R73	VRD–ST2EE682J	6.8K ohm	AA
R79	VRD–ST2EE331J	330 ohm	AA
R80	VRD–ST2EE560J	56 ohm	AA
R81	VRD–ST2EE331J	330 ohm	AA
R82	VRD–ST2EE103J	10K ohm	AA
R83	VRD–ST2EE561J	560 ohm	AA
R84	VRD–ST2EE105J	1Meg ohm	AA
R85	VRD–ST2EE103J	10K ohm	AA
R86	VRD–ST2EE103J	10K ohm	AA
R87	VRD–ST2EE273J	27K ohm	AA
R91	VRD–ST2EE101J	100 ohm	AA
R93, R94	VRD–ST2EE101J	100 ohm	AA
R95, R96	VRD–ST2EE102J	1K ohm	AA
R97, R98	VRD–ST2EE822J	8.2K ohm	AA
R99, R100	VRD–ST2EE684J	680K ohm	AA
R101, R102	VRD–ST2EE221J	220 ohm	AA
R103, R104	VRD–ST2EE223J	22K ohm	AA
R105, R106	VRD–ST2EE124J	120K ohm	AA
R107, R108	VRD–ST2EE562J	5.6K ohm	AA
R107, R108	VRD–ST2EE562J	5.6K ohm	AA
R109, R110	VRD–ST2EE472J	4.7K ohm	AA
R111, R112	VRD–ST2EE473J	47K ohm	AA
R113	VRD–ST2EE122J	1.2K ohm	AA
R114	VRD–ST2EE152J	1.5K ohm	AA
R115, R116	VRD–ST2EE333J	33K ohm	AA
R117, R118	VRD–ST2EE103J	10K ohm	AA
R119, R120	VRD–ST2EE824J	820K ohm	AA
R121, R122	VRD–ST2EE122J	1.2K ohm	AA
R123, R124	VRD–ST2EE104J	100K ohm	AA
R125, R126	VRD–ST2EE823J	82K ohm	AA
R127, R128	VRD–ST2EE102J	1K ohm	AA
R129, R130	VRD–ST2EE102J	1K ohm	AA
R131, R132	VRD–ST2EE154J	150K ohm	AA
R133, R134	VRD–ST2EE684J	680K ohm	AA
R135, R136	VRD–ST2EE274J	270K ohm	AA
R137, R138	VRD–ST2EE332J	3.3K ohm	AA
R139, R140	VRD–ST2EE473J	47K ohm	AA
R141, R142	VRD–ST2EE104J	100K ohm	AA
R143, R144	VRD–ST2EE121J	120 ohm	AA
R145, R146	VRD–ST2EE181J	180 ohm	AA
R147, R148	VRD–ST2EE102J	1K ohm	AA
R149, R150	VRD–ST2EE154J	150K ohm	AA
R151, R152	VRD–ST2EE472J	4.7K ohm	AA
R153, R154	VRS–PT3DB271K	270 ohm, 2W, +10–10%, Oxide Film	AB
R155	VRD–ST2EE123J	12K ohm	AA
R156	VRD–ST2EE223J	22K ohm	AA
R157	VRD–ST2EE223J	22K ohm	AA
R158	VRS–PT3DB101K	100 ohm, 2W, +10–10%, Oxide Film	AB
R159	VRC–MT2HG221K	220 ohm, 1/2W, +10–10%, Carbon	AB
R160	VRD–ST2EE333J	33K ohm	AA
R162	VRW–KT3HD391K	390 ohm, 5W, +10–10%, Wire	AD
R163, R164	VRD–ST2EE104J	100K ohm	AA
R165, R166	VRD–ST2EE683J	68K ohm	AA
R168, R169	VRD–ST2EE224J	220K ohm	AA
R170, R171	VRD–ST2EE154J	150K ohm	AA
R172	VRD–ST2EE222J	2.2K ohm	AA
R201	VRD–ST2EE100J	10 ohm	AA
R202	VRD–ST2EE223J	22K ohm	AA
R203	VRD–ST2EE822J	8.2K ohm	AA
R204	VRD–ST2EE562J	5.6K ohm	AA
R205	VRD–SU2EY224J	220K ohm	AA
R206	VRD–SU2EY104J	100K ohm	AA
R207, R208	VRD–ST2EE822J	8.2K ohm	AA
R209, R210	VRD–ST2EE104J	100K ohm	AA
R211, R212	VRD–ST2EE473J	47K ohm	AA
R213, R214	VRD–ST2EE563J	56K ohm	AA
R215, R216	VRD–ST2EE102J	1K ohm	AA
R217, R218	VRD–ST2EE822J	8.2K ohm	AA

PARTS LIST

REF NO.	PART NO.	DESCRIPTION	CODE
R219, R220	VRD–ST2EE561J	560 ohm	AA
R221, R222	VRD–ST2EE124J	120K ohm	AA
R223, R224	VRD–ST2EE562J	5.6K ohm	AA
R225	VRD–ST2EE821J	820 ohm	AA
R226	VRD–ST2EE122J	1.2K ohm	AA
R227	VRD–ST2EE223J	22K ohm	AA
R228	VRD–ST2EE822J	8.2K ohm	AA
R229, R230	VRD–ST2EE333J	33K ohm	AA
R231, R232	VRD–ST2EE123J	12K ohm	AA
R233	VRD–ST2EE102J	1K ohm	AA
R234	VRD–ST2EE222J	2.2K ohm	AA
R235	VRD–ST2EE273J	27K ohm	AA
R237, R238	VRD–ST2EE392J	3.9K ohm	AA
R401, R402	VRD–ST2EE103J	10K ohm	AA
R403, R404	VRD–ST2EE224J	220K ohm	AA
R405, R406	VRD–ST2EE154J	150K ohm	AA
R407, R408	VRD–ST2EE102J	1K ohm	AA
R409, R410	VRD–ST2EE122J	1.2K ohm	AA
R411, R412	VRD–SU2EY272J	2.7K ohm	AA
R413, R414	VRD–SU2EY393J	39K ohm	AA
R415, R416	VRD–ST2EE183J	18K ohm	AA
R417, R418	VRD–ST2EE332J	3.3K ohm	AA
R419, R420	VRD–ST2EE562J	5.6K ohm	AA
R421, R422	VRD–ST2EE153J	15K ohm	AA
R423	VRD–ST2EE102J	1K ohm	AA
R501, R502	VRD–ST2EE102J	1K ohm	AA
R503, R504	VRD–ST2EE184J	180K ohm	AA
R505, R506	VRD–ST2EE274J	270K ohm	AA
R507, R508	VRD–ST2EE224J	220K ohm	AA
R509, R510	VRD–ST2EE121J	120 ohm	AA
R511, R512	VRD–ST2EE822J	8.2K ohm	AA
R513, R514	VRD–ST2EE4R7J	4.7 ohm	AA
R515	RR–XZ1006AFZZ	100 ohm, 1/4W, Fusible	AB
R601, R602	RR–XZ1006AFZZ	5.6K ohm	AA
R603, R604	VRD–ST2EE183J	18K ohm	AA
R605, R606	VRD–ST2EE473J	47K ohm	AA
R607, R608	VRD–ST2EE824J	820K ohm	AA
R609, R610	VRD–ST2EE124J	120K ohm	AA
R611, R612	VRD–ST2EE273J	27K ohm	AA
R613, R614	VRD–ST2EE682J	6.8K ohm	AA
R615, R616	VRD–ST2EE102J	1K ohm	AA
R617, R618	VRD–ST2EE122J	1.2K ohm	AA
R619, R620	VRD–ST2EE102J	1K ohm	AA
R621, R622	VRD–ST2EE123J	12K ohm	AA
R623, R624	VRD–ST2EE820J	82 ohm	AA
R625, R626	VRD–ST2EE123J	12K ohm	AA
R627, R628	VRD–ST2EE123J	12K ohm	AA
R629, R630	VRD–ST2EE104J	100K ohm	AA
R631, R632	VRD–ST2EE100J	10 ohm	AA
R633	VRD–ST2EE1R0J	1 ohm	AA
R634	VRC–MT2HG681K	680 ohm, 1/2W, +10–10%, Carbon	AA
R701, R702	VRC–MT2HG181K	180 ohm, 1/2W, +10–10%, Carbon	AA
R801	VRD–ST2EE335J	3.3Meg ohm	AA
R802	VRC–MT2HG106K	10Meg ohm, 1/2W, +10–10%, Carbon	AA
R803	VRD–ST2EE471J	470 ohm	AA
R804	VRD–ST2EE335J	3.3Meg ohm	AA
R805	VRC–MT2HG106K	10Meg ohm, 1/2W, +10–10%, Carbon	AA
R806	VRD–ST2EE102J	1K ohm	AA
R807	VRD–ST2EE335J	3.3Meg ohm	AA
R808	VRC–MT2HG106K	10Meg ohm, 1/2W, +10–10%, Carbon	AA
R809	VRD–ST2EE102J	1K ohm	AA
R810	VRD–ST2EE335J	3.3Meg ohm	AA
R811	VRC–MT2HG106K	10Meg ohm, 1/2W, +10–10%, Carbon	AA
R812	VRD–ST2EE102J	1K ohm	AA
R813	VRD–ST2EE335J	3.3Meg ohm	AA
R814	VRC–MT2HG106K	10Meg ohm, 1/2W, +10–10%, Carbon	AA
R815	VRD–ST2EE102J	1K ohm	AA
R816	VRD–ST2EE335J	3.3Meg ohm	AA
R817	VRC–MT2HG106K	10Meg ohm, 1/2W, +10–10%, Carbon	AA
R818	VRD–ST2EE102J	1K ohm	AA

CAPACITORS

C21	VCKZPU1HF472Z	.0047MFD, 50V, +80–20%, Ceramic	AA
C22	VCKZPU1HF223Z	.022MFD, 50V, +80–20%, Ceramic	AA

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
C23	VCCSPU1HL100C	10PF, 50V, +.25−.25PF, Ceramic	AA
C24	VCKZPU1HF103P	.01MFD, 50V, +100−0%, Ceramic	AE
C25	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C26	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C27	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C28	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C30	VCCSPU1HL820J	82PF, 50V, +5−5%, Ceramic	AA
C32	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C35	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C36	VCKZPU1HF104Z	.1MFD, 50V, +80−20%, Ceramic	AC
C37	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C38	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C40	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C41	VCKZPU1HF103P	.01MFD, 50V, +100−0%, Ceramic	AE
C42	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C43	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C45	VCKZPU1HF102P	.001MFD, 50V, +100−0%, Ceramic	AA
C46	VCKZPU1HF103P	.01MFD, 50V, +100−0%, Ceramic	AE
C47	VCKZPU1HF103P	.01MFD, 50V, +100−0%, Ceramic	AE
C51	VCQYKU1HM223J	.022MFD, 50V, +5−5%, Mylar	AC
C54	VCQYKU1HM473J	.047MFD, 50V, +5−5%, Mylar	AC
C55	VCQYKU1HM153J	.015MFD, 50V, +5−5%, Mylar	AC
C56	VCQYKU1HM153J	.015MFD, 50V, +5−5%, Mylar	AC
C59	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C60	VCQSMU1HS152J	1500PF, 50V, +5−5%, Styrol	AC
C65	VCQYKU1HM102J	.001MFD, 50V, +5−5%, Mylar	AC
C66	VCQYKU1HM472J	.0047MFD, 50V, +5−5%, Mylar	AC
C68	VCQYKU1HM102J	.001MFD, 50V, +5−5%, Mylar	AC
C69	VCQYKU1HM472J	.0047MFD, 50V, +5−5%, Mylar	AC
C70	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C73	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C74	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C75	VCQYKU1HM682K	.0068MFD, 50V, +10−10%, Mylar	AB
C76	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C78	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C83, C84	VCCSPU1HL331K	330PF, 50V, +10−10%, Ceramic	AB
C87, C88	VCQYKU1HM102M	.001MFD, 50V, +20−20%, Mylar	AB
C89, C90	VCQYKU1HM472J	.0047MFD, 50V, +5−5%, Mylar	AC
C91, C92	VCCSPU1HL331K	330PF, 50V, +10−10%, Ceramic	AB
C99, C100	VCQYKU1HM123J	.012MFD, 50V, +5−5%, Mylar	AC
C117, C118	VCQYKU1HM472J	.0047MFD, 50V, +5−5%, Mylar	AC
C123, C124	VCQYKU1HM473J	.047MFD, 50V, +5−5%, Mylar	AC
C125, C126	VCQYKU1HM562J	.0056MFD, 50V, +5−5%, Mylar	AC
C140	VCQYKU1HM103K	.01MFD, 50V, +10−10%, Mylar	AB
C142	VCCSPU1HL470J	47PF, 50V, +5−5%, Mylar	AA
C201	VCCSPU1HL330J	33PF, 50V, +5−5%, Ceramic	AA
C202	VCCSPU1HL680J	68PF, 50V, +5−5%, Ceramic	AA
C203	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C204	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C205	VCQSMU1HS472J	4700PF, 50V, +5−5%, Styrol	AC
C206	VCCUPU1HJ5R0D	5PF (UJ), 50V, +. 5−. 5PF Ceramic	AA
C207	VCKZPU1HF102P	.001MFD, 50V, +100−0%, Ceramic	AA
C208	VCCSPU1HL8R0C	8PF, 50V, +. 25−. 25PF, Ceramic	AA
C209	VCKZPU1HF403Z	.04MFD, 50V, +80−20%, Ceramic	AB
C210	VCQSMU1HS471J	470PF, 50V. +5−5%, Styrol	AB
C211	VCCUPU1HF180J	18PF (UJ), 50V, +5−5%, Ceramic	AB
C212	VCCUPU1HJ680J	68PF (UJ), 50V, +5−5%, Ceramic	AB
C213	VCQSMU1HS181J	180PF, 50V, +5−5%, Styrol	AB
C214	VCCSPU1HL6R0C	6PF, 50V, +.25−. 25PF, Ceramic	AA
C215	VCCSPU1HL180J	18PF, 50V, +5−5%, Ceramic	AA
C216, C217	VCQYKU1HM103K	.01MFD, 50V, +10−10%, Mylar	AB
C218, C219	VCQYKU1HM333K	.033MFD, 50V, +10−10%, Mylar	AB
C220, C221	VCCSPU1HL151J	150PF, 50V, +5−5%, Ceramic	AA
C225, C226	VCQYKU1HM102M	.001MFD, 50V, +20−20%, Mylar	AB

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
C233, C234	VCQYKU1HM333K	.033MFD, 50V, +10%, Mylar	AB
C235, C236	VCCSPU1HL681J	680PF, 50V, +5 −5%, Ceramic	AB
C403, C404	VCCSPU1HL100K	10PF, 50V, +10 −10%, Ceramic	AA
C411, C412	VCQYKU1HM122K	.0012MFD, 50V, +10 −10%, Mylar	AB
C413, C414	VCQYKU1HM103K	.01MFD, 50V, +10 −10%, Mylar	AB
C415, C416	VCQYKU1HM153K	.015MFD, 50V, +10 −10%, Mylar	AB
C417, C418	VCQYKU1HM823K	.082MFD, 50V, +10 −10%, Mylar	AC
C503, C504	VCCSPU1HL471K	470PF, 50V, +10 −10%, Ceramic	AB
C513, C514	VCCSPU1HL121K	120PF, 50V, +10 −10%, Ceramic	AA
C517, C518	VCQYKU1HM473K	.047MFD, 50V, +10 −10%, Mylar	AC
C523, C524	VCKZPU1MF333P	.033MFD, 75V, +100 −0%, Ceramic	AC
C526, C527	VCKZPU1MF333P	.033MFD, 75V, +100 −0%, Ceramic	AC
C530	VCKZPU1MF333P	.033MFD, 75V, +100 −0%, Ceramic	AC
C603, C604	VCQYKU1HM223J	.022MFD, 50V, +5 −5%, Mylar	AC
C605, C606	VCQYKU1HM822J	.0082MFD, 50V, +5 −5%, Mylar	AC
C607, C608	VCQYKU1HM183K	.018MFD, 50V, +10 −10%, Mylar	AB
C609, C610	VCQYKU1HM103K	.01MFD, 50V, +10 −10%, Mylar	AB
C614, C615	VCQYKU1HM103K	.01MFD, 50V, +10 −10%, Mylar	AB
C617	VCKZPU1EF103Z	.01MFD, 25V, +80 −20%, Ceramic	AC
C618	VCQYKU1HM333K	.033MFD, 50V, +10 −10% Mylar	AB
C619	VCCSPU1HL821K	820PF, 50V, +10 −10%, Ceamic	AB
C620	VCCSPU1HL821K	820PF, 50V, +10 −10%, Ceramic	AB
C621	VCQYKU1HM473K	.047MFD, 50V, +10 −10%, Mylar	AC
C622	VCQYKU1HM473K	.047MFD, 50V, +10 −10%, Mylar	AC
C623	VCQYKU1HM563K	.056MFD, 50V, +10 −10%, Mylar	AC
C624	VCQYKU1HM683M	.068MFD, 50V, +20 −20%, Mylar	AC
C625	VCQYKU1HM273K	.027MFD, 50V, +10 −10%, Mylar	AB
C701	Refer to Parts List of Player (Ref. No. 150)		
C702	VCPOAT3AC473M	.047MFD, 1000V, +20 −20%, Oil Paper	AD
C801, C802, C803, C804, C805, C806	VCKZPU1HF102P	001MFD, 50V, +100 −0%, Ceramic	AA

REF. NO.	PART NO.	DESCRIPTION	CODE
		ELECTROLYTIC CAPACITORS (Unless otherwise specified capacitor are 16V, +50 −10% Type.)	
C31	VCAAAU1EB474K	.47MFD, 25V, +10 −10%	AC
C39	VCEAAU1HW105A	1MFD, 50V, +75 −10%	AB
C44	VCEAAU1CW107Y	100MFD, 16V, +50 −10%	AC
C48	VCEAAU1EW335A	3.3MFD, 25V, +75 −10%	AB
C49	VCEAAU1EW335A	3.3MFD, 25V, +75 −10%	AB
C50	VCAAAU1EB104K	.1MFD, 25V, +10 −10%	AC
C52	VCEAAU1HW105A	1MFD, 50V, +75 −10%	AB
C53	VCEAAU1EW475A	4.7MFD, 25V, +75 −10%	AB
C57	VCEAAU1CW476Y	47MFD,	AC
C58	VCEAAU1CW107Y	100MFD	AC
C61	VCAAAU1EB224K	.22MFD, 25V, +10 −10%	AC
C62	VCAAAU1EB474K	.47MFD, 25V, +10 −10%	AC
C63	VCEAAU1EW335A	3.3MFD, 25V, +75 −10%	AB
C64	VCEAAU1EW335A	3.3MFD, 25V, +75 −10%	AB
C67	VCEAAU1CW107Y	100MFD	AC
C71	VCEAAU1HW105A	1MFD, 50V, +75 −10%	AB
C72	VCEALU1HW104M	.1MFD, 50V, +20 −20%	AB
C77	VCEAAU1CW107Y	100MFD	AC
C79	VCEAAU1CW107Y	100MFD	AC
C80	VCEAAU1EW227Y	220MFD, 25V, +50 −10%	AC
C81	VCEAAU1HW476Y	47MFD, 50V, +50 −10%	AC
C82	VCEAAU1HW105A	1MFD, 50V, +75 −10%	AB
C85, C86	VCEAAU1HW105A	1MFD, 50V, +75 −10%	AB
C93, C94	VCEAAU1AW227Y	220MFD, 10V, +50, −10%	AC
C95	VCEAAU1EW227Y	220MFD, 25V, +50 −10%	AC
C96	VCEAAU1EW227Y	220MFD, 25V, +50 −10%	AC
C97, C98	VCEAAU1CW106Y	10MFD	AB
C101, C102	VCEAAU1CW106Y	10MFD	AB
C103, C104	VCEAAU1HW105A	1MFD, 50V, +75 −10%	AB
C105, C106	VCEAAU1CW477Y	470MFD	AD
C107, C108	VCEAAU1AW477Y	470MFD, 10V, +50 −10%	AD
C109, C110	VCEAAU1CW106Y	10MFD	AB
C111, C112	VCAAAU1EB104K	.1MFD, 25V, +10 −10%	AC
C113, C114	VCAAAU1EB334K	.33MFD, 25V, +10 −10%	AC
C115, C116	VCEAAU1CW106Y	10MFD	AB
C119, C120	VCEAAU1CW106Y	10MFD	AB
C127, C128	VCEAAU1CW106Y	10MFD	AB
C129, C130	VCEAAU1CW106Y	10MFD	AB
C131, C132	VCEAAU1EW335A	3.3MFD, 25V, +75 −10%	AB
C133, C134	VCEAAU1CW106Y	10MFD	AB
C135	VCEAAU0JW337Y	330MFD, 6.3V, +50 −10%	AC
C136	VCEAAU1CW227Y	220MFD	AC
C137	VCEAAU1EW477Y	470MFD, 25V, +50 −10%	AD
C138	VCEAAU1CW106Y	10MFD	AB

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
C139	VCEAAU1EW475A	4.7MFD, 25V, +75–10%	AB
C143, C144	VCEALU1HW104M	.1MFD, 50V, +20–20%	AB
C222	VCEAAU1HW105A	1MFD, 50V, +75–10%	AB
C223, C224	VCEALU1HW104M	.1MFD, 50V, +20–20%	AB
C227, C228	VCEAAU1CW106Y	10MFD	AB
C229	VCEAAU1EW227Y	220MFD, 25V, +50–10%	AC
C230	VCEAAU1HW105A	1MFD, 50V, +75–10%	AB
C231, C232	VCEAAU1EW335A	3.3MFD, 25V, +75–10%	AB
C237, C238	VCEAAU1CW106Y	10MFD	AB
C401, C402	VCEALU1HW104M	.1MFD, 50V, +20–20%	AB
C405, C406	VCEAAU1CW106Y	10MFD	AB
C407, C408	VCEAAU1CW106Y	10MFD	AB
C409, C410	VCEAAU0JW476Y	47MFD, 6.3V, +50–10%	AB
C419	VCEAAU1EW337Y	330MFD, 25V, +50–10%	AD
C501, C502	VCEALU1HW684M	.68MFD, 50V, +20–20%	AB
C505	VCEAAU1JW107Y	100MFD, 63V, +50–10%	AD
C507, C508	VCEAAU1HW476Y	47MFD, 50V, +50–10%	AC
C509, C510	VCEAAU1EW227Y	220MFD, 25V, +50–10%	AC
C511, C512	VCEAAU1EW476Y	47MFD, 25V, +50–10%	AC
C515, C516	VCEAAU1VW228Y	2200MFD, 35V, +50–10%	AK
C519	VCEAAU1CW108Y	1000MFD	AE
C525	VCEAAU1JW228Y	2200MFD, 63V, +50–10%	AN
C528	VCEAAU1VW477Y	470MFD, 35V, +50–10%	AE
C529	VCEAAU1JW337Y	330MFD, 63V, +50–10%	AF
C601, C602	VCEAAU1CW106Y	10MFD	AB
C611, C612	VCEAAU1CW106Y	10MFD	AB
C613	VCEAAU1EW227Y	220MFD, 25V, +50–10%	AC
C616	VCEAAU1CW337Y	330MFD	AD

TEPE DECK PARTS

01	LHLDW3024AGFD	Wire Holder	AN
02	RHEDA0050AFZZ	Head, Erase	AN
03	MSPRP0131AFFN	Spring, Cassette Retaining	AB
04	MSPRD0088AGFJ	Spring, Record Safety Lever	AA
05	LANGF0260AGZZ	Bracket, Record Safty Lever	AD
06	MLEVP0032AGZZ	Lever, Record Safety	AB
07	MLEVF0451AGZZ	Lever, Brake	AC
08	NDAIR0060AFSA	Turntable, Supply	AD
09	DROLR0014AGZZ	Roller, Rewind	AF
10	MSPRT0189AGFJ	Spring, Rewind Roller Lever	AA
11	LSTPF0002AGFD	Bracket, Function Button	AA
12	MLEVP0033AGZZ	Lever, Tape End Sensing	AC
13	NROLY0001AFZZ	Lever, Pressure Roller	AF
14	RHEDH0055AFZZ	Head, Record/Playback	AX
15	MLEVF0513AFFW	Lever, Pressure Roller	AC
16	MSPRC0031AGMN	Spring, Head Azimuth	AA
17	MSPRT0312AFFJ	Spring, Pressure Roller Lever	AA
18	LCHSS0104AFZZ	Sub-chassis	AG
19	NSFTZ0050AFFD	Shaft, Function Button	AD
20	NBALS0004AGFJ	Ball, 2.5ϕ	AA
21	JKNBR0104AFSA	Knob, Function	AD
22	NDAIR0100AFSA	Turntable, Take-up	AG
23	NIDR-0021AGZZ	Idler, Tade-up	AF
24	MSPRT0258AGFJ	Spring, Rewind/Pause Botton	AA
25	LANGT0479AFZZ	Bracket, Pause Lever	AF
26	MLEVF0512AFZZ	Lever, Pause	AC
27	LSLVM0050AFFW	Spacer, Pause Lever	AA
28	LCHSM0240AFZZ	Mechanism Main-chassis	AQ
29	MSPRT0254AGFJ	Spring, Stop/Ff Futton	AA
30	MSPRT0266AGFJ	Spring, Record/Play Button	AA
31	LX-BZ0214AFZZ	Screw, Flywheel Thrust Adjust	AB
32	LANGT0553AFZZ	Bracket, Flywheel	AF
33	NBLTH0055AGZZ	Belt, Drive	AD
34	NFLYC0056AGZZ	Flywheel	AQ
35	PSDAA0001AGFJ	Spacer, Motor Cushion	AA
36	LBSHS0001AG00	Cushion, Motor	AA
37	LANGT0492AFFW	Bracket, Motor	AC
38	RMOTV0058AFZZ	Motor	AW
39	MLEVF0441AGFD	Lever, Over Stroke	AC
40	PCOVW7101AFZZ	Insulator, Motor Switch	AB
41	NROLF0050AFZZ	Roller, Fast Forward	AH
42	MSPRT0263AGFJ	Spring, Fast Forward Roller	AA
43	MLEVP0051AFZZ	Lever, Tape Selector	AC
44	MLEVP0031AGZZ	Lever, Take-up Idler	AD
45	LANGQ0440AFZZ	Bracket, Tape Selector Switch	AD
46	NPLYR0050AF00	Pulley, Take-up	AC
47	MLEVF0439AGFW	Lever, Fast Forward	AB
48	MLEVF0443AGZZ	Lever, Auto Stop	AC
49	MSPRD0089AGFJ	Spring, Auto Stop Lever	AA
50	PGIDS0006AGFW	Spacer, Fast Forward Lever	AB
51	MLEVF0514AFFW	Lever, Take-up Idler	AB
52	MSPRP0093AGFW	Spring, Sub-chassis Retaining	AB
53	NBALS0010AGFJ	Ball, 3/16" ϕ	AA
54	MSPRT0257AGFJ	Spring, Take-up Idler	AA
55	MSPRT0329AFFJ	Spring, Over Stroke	AA
56	MLEVF0446AGFD	Lever, Over Stroke Spring	AA
57	MLEVF0546AFFD	Lever, Over Stroke	AC
58	MSPRT0253AGFJ	Spring, Record Connecting Lever	AA
59	LANGF0261AFZZ	Bracket, Tape Guide	AD
60	MLEVF0511AFFW	Lever, Record Operation	AC
63	NBRGC0053AFZZ	Bearing, Capstan	AF
64	MLEVF0445AGFN	Lever, Lock	AC
65	MSPRT0259AGFJ	Spring, Lock Plate	AA
66	MSPRT0256AGFJ	Spring, Auto Stop Lever	AA
67	MLEVP0034AGZZ	Lever, Auto Stop	AB
68	LANGQ0494AFFW	Bracket, Motor Switch	AE
69	MSPRT0258AGFJ	Spring, Eject Lever	AA
70	MLEVP0038AG00	Lever, Eject	AC
71	LSLVM0055AFFW	Spacer, Sub-chassis	AA
72	MSPRT0357AFFJ	Spring, Fast Forward Roller	AA
73	LSLVM0054AFFW	Spacer, Fast Forward Roller	AA
74	MLEVF0586AFFW	Lever, Fast Forward Roller	AC

RECORD PLAYER PARTS

101	850878	Sheet, Tarntable	AT
102	892326-4	Elevation Plate	AF
103	620016	Turntable	BA
104	———	Belt (BT+3 x 8)	AQ
105	850889	Pick-up Ass'y with cartridge	BN
106	894406	Base, Pick-up	AG
107	———	Weight,	-
108	891791	Shaft, Turntable	AN
109	890620	Stud, Gear Stopper	AD
110	890619	Cover, Gear Stopper	AB
111	890618	Arm, Gear Stopper	AC
112	890628	Spring, Gear Stopper	AB
113	890876	EP Adaptor	AC
114	890675	Shaft, EP Adaptor	AB
115	700514-1	Bearing, Turntable Ass'y	AL
116	E-832780	Spring, Elevation	AB
117	E-271110	Stopper	AC
118	893135	Elevation Plate	AE
119	890199	Spot, Gear	AG
120	890200	Guide, Gear	AG
121	891210	Gear, Ass'y	AN
122	894403	Lever, Speed Selector	AD
123	894402	Cover, Speed Selector	AL
125	870402-1	Lever, Speed Selector	AG
126	893046	Bracket Speed Selector Lever	AF
127	893040	Stopper, Speed Selector Lever	AC
128	E-287680	Spring, Speed Selector Lever	AA
129	———	Ball, 4ϕ	-
130	894403	Reject Lever	AD
131	894404	Cover, Reject	AL
132	893369	Rest Stand	AG
133	894405	Cover, Cue Lever	AE
134	850881	Mechanism Mounting Plate	AX
135	893846	Cam, Speed Selector	AE
136	893841	Arm, Speed Selector	AD
137	892540-1	Cuing Ass'y	AF
138	890792	Cam, Reject Lever	AE
139	892086-5	Reject Spring	AB
140	890051	Reject Lever	AC
141	890052	Spring, Reject Lever Returning	AB
142	890322-1	Shaft, Reject Spring	AC
143	893848	Stopper, Player Ass'y	AD
144	890721	Switch Lever	AC
145	870038-1	Bracket, Auto Return Arm	AE
146	891635	Arm, Auto Return	AK
147	890794	Arm, Seesaw Ass'y	AH
148	891849	Lug Terminal	AD
149	890835	Tube, 16ϕ x 40ℓ UL	AB
150	890836-2	Capacitor, .047MFD, 1500WV	AH
151	890994-1	Arm, Switch	AH
152	890995	Plate, Switch Arm	AC
153	893327	Sheet, Insulator	AB
154	893659	Spacer, Motor	AB
155	702230	Cushion, Motor	AC
156	890334	Motor Switch	AG
157	893492	Bracket, Terminal	AD
158	893493	Output Terminal	AE
159	890197-3	Bracket, Player Set	AC
160	703664-9	Cord with Plug, Power Supply	AM
161	631106	Motor	BC
162	892331	Spring, Switch Arm	AB
163	703740-1	Pulley, Motor	AH
164	890166-1	Spring, Player Ass'y	AD
165	890166-2	Spring, Player Ass'y	AD
166	890322-2	Shaft, Switch Arm Spring	AC
167	894173	Bracket, Motor	AK
168	894407	Bracket, Player Set	AC
169	893583	Guide, Pick-up Ass'y	AH
170	892136	Cord Cramper	AB
171	———	UL Tube, 3ϕ x 50ℓ	-
172	891771-1	Felt, Player Spring	-

MISCELLANEOUS

201	GCABA1430AFSA	Cabinet	BD
	GCABA1430AFSB	Cabinet (Blake)	BD
202	GCABB1430AFSA	Cabinet, Bottom	BB
	GCABB1430AFSB	Cabinet, Bottom (Blake)	BB
203	GFTAC1063AFSA	Lid, Cassette	AH
	GFTAC1063AFSB	Lid, Cassette (Blake)	AH
204	HDALP0358AFSA	Dial Scale	AM
205	HDAP-0166AFSA	Plate, Dial Scale Mounting	AK
206	HDECB0018AGS	Mirror, Cassette Compartment	AA
207	HSSND0220AFSA	Pointer	AF
208	JKNBM0238AFSA	Knob, Push Switches	AD
209	JKNBM0239AFSA	Knob, AFC	AC
210	JKNBN0306AFSA	Knob, TUNING	AG
211	JKNBN0307AFSA	Knob, U1/U2/U3/U4/U5	AB
212	JKNBP0068AFSA	Knob, REC LEVEL/BASS /TREBLE/BALANCE /VOLUME	AF
213	JKNBZ0125AFSA	Knob, Touch Switches	AV
214	KCOUB0031AGZZ	Counter	AN
215	LANGR0394AFZZ	Bracket, Fuse Mounting	AC
216	LANGR0397AFZZ	Bracket, DOLBY NR/ALC Switches	AC
217	LANGR0398AFZZ	Bracket, Volume Controls	AE
218	LANGT0493AFFW	Bracket, Counter	
219	NBLTM0029AG00	Belt, Counter	AE
220	NDRM-0001SGZZ	Durm, Dial Strining	AE
221	NPLYB0001AFZZ	Pully, Dial Stringing, Small	AB
222	NPLYB0001SGZZ	Pully, Dial Strining, Large	AB
223	PRDAR0125AFFW	Heatsink	AV
224	PSLDM3118AFZZ	Bracket, Shield	AC
225	PSLDM3119AFZZ	Paper, Shield	AC
226	QLUGL0250AFZZ	Lug Terminal, Mains Supply Cord	AC
	GCOVA1068AFSA	Cover, Dust	BC
	GCOVA1074AFSA	Cover, Headphones/ Microphones Jack	AB
	GFTAU3060AFZZ	Lid, Bottom	AB
	HBDGB3001CESA	Badge, SHARP	AD
	LANGA0029AGZZ	Bracket, Cassette Compartment Lid	AA
	LANGK0170AFZZ	Bracket, Mechanism Mounting	AD
	LANGK0171AFZZ	Bracket, Meter Mounting	AE
	LANGK0172AFZZ	Bracket, Hinge Retaining	AB
	LANGK0173AFZZ	Bracket, Turntable Ass'y Retaining	AB
	LANGQ0477AFZZ	Bracket, Switches PWB	AA
	LANGQ0478AFZZ	Bracket, Ground	AB
	LANGR0395AFZZ	Bracket, FM STEREO L.E.D.	AC
	LANGR0396AFZZ	Bracket, Variable Tuning Gang	AD
	LANGR0402AFZZ	Bracket, Power Transformer	AD
	LANGT0550AFZZ	Bracket, Turntable Ass'y Holding	AB
	LBSHC0053AFZZ	Bushing, Mians Supply Cord	AB
	LBSHC0054AFZZ	Bushing, Mains Supply Cord	AB
	LBSHZ0001AF00	Holder, Meter Illmination Lamp	AA
	LHLDP8004AFS	Holder Pilot Lamp	
	LHLDW1027AGZZ	Wire Holder	AA
	LHLDW1052AFZZ	Wire Holder	AA
	LHLDW1062AFZZ	Wire Holder	AA

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
	LHLDW9002CEZZ	Wire Holder	AA
	LHLDW9003CEZZ	Wire Holder	AA
	LX-BZ0211AFZZ	Shaft, Small Pully	AA
	LX-HZ0059AFZZ	Screw, 30mm (Length, Turntable Ass'y	AA
	LX-HZ0061AFZZ	Screw, 15mm (Length), Turntable Ass'y	AA
	LX-NZ0108AFFN	Nut, Headphones/Microphones Jack	AB
	LX-WZ3052AFFW	Washer, Touch Switches	AB
	MHNG-0102AFFN	Hinge, Dust Cover	AE
	MHNG-0107AFZZ	Hinge, Cabinet	AL
	MLEVF0614AFZZ	Lever, Eject	AB
	MLEVP0025AG00	Lever, Lock	AB
	MSPRP0129AFFW	Spring, Cassette Holding	AB
	MSPRT0304AFFJ	Spring, Dial Stringing	AA
	MSPRT0388AFFJ	Spring, Lock Lever	AA
	MSPRT0409AFFJ	Spring, Volume Ground	AA
	MSPRT0410AFFJ	Spring, Cassette Holder Up	AB
	NFLYC0051AFZZ	Flywheel	AK
	NPLYC0101AFFD	Shaft, Large Pully	AA
	NPLYP0054AFH6	Pully, 60Hz	-
	NSFTD0165AFFW	Shaft, With Flywheel	AM
	PCOVU7109AFZZ	Cover, Pilot Lamp, Upper	AB
	PCOVU7110AFZZ	Cover, Meter Illumination Lamp	AC
	PCOVU7111AFZZ	Cover, Pilot Lamp, Lower	AA
	PCUSG0071AF00	Cushion, Turntable Ass'y	AB
	PCUSG0073AF00	Cushion, Core Holder	AB
	PCUSS0075AF00	Cushion, Masking, Pilot Lamp	AA
	PFLT-0277AFZZ	Felt, Leg	AB
	PFLT-0278AFZZ	Felt, Volume Controls	AB
	PFLT-0282AFZZ	Felt, Dust Cover	AB
	PGIDH0051AFZZ	Holder, Eject Lever	AA
	PGIDH0052AFZZ	Holder, Lock Lever	AA
	PGUMM0107AF00	Rubber, Cushion, Cassette Compartment Lid	AB
	PGUMM0108AF00	Rubber, Meter Holding	AC
	PGUMM0100AF00	Rubber, Meter Holding	
	PSLDM3120AFZZ	Shield Plate, Power Transformer	AA
	PSPAG0001AEZZ	Spacer, Variable Tuning Gang, Rubber	AA
	PSPAJ0010AGJA	Spacer, Variable Tuning Gang	AA
	PSPAZ0060AFZZ	Spacer, U1 -U5/MANUAL L.E.D.	
	QACCN0001AGZZ	Cord, Mains Supply (SEMKO)	AP
	QACCS9001SE00	Cord, Mains Supply (SEV)	AG
	QACCV0001AGZZ	Cord, Mains Supply (SEEG)	AN
	QANTW0054AFZZ	Cord, Antenna	AL
CNP1	QCNCM0604SGZZ	Plug, 6 Pin	AD
	QCNCM0710SGZZ	Plug, 7 Pin	AF
CNP201	QCNCM094CAFZZ	Plug, 3 Pin	AD
	QCNCM113EAFZZ	Plug, 5 Pin	AD
	QCNCM120MAFZZ	Plug, 12 Pin	AE
CNP2	QCNCM1201AGZZ	Plug, 12 Pin	AE
	QCNCM126TAFZZ	Plug, 18 Pin	AF
CNS1	QCNCW0603SGZZ	Socket, 6 Pin	AB
CNS201	QCNCW086CAFZZ	Socket, 3 Pin	AB
	QCNCW101EAFZZ	Socket, 5 Pin	AC
CNS2	QCNCW1201AGZZ	Socket, 12 Pin	AC
	QCNW-0076AGZZ	Cord, Phone, Gray	AE
	QCNW-0077AGZZ	Cord, Phone, Brown	AE
F504	QFS-C102AAGNI	Fuse, 1AT	AE
F701	QFS-C202AAGNI	Fuse, 2AT	AE
F501, F505	QFS-C321BAGNI	Fuse, 315mAT	AF
F502, F503	QFS-C322DAFNI	Fuse, 3.15AT	AE
	QFSHC0003AGZZ	Holder, Fuse (F701)	AD
	QFSHD1001AGZZ	Holder, Fuse (F501 - F505)	AA
	QHWS-3206AGFN	Lug Terminal, Mechanism Chassis Ground	AA
J1, J2	QJAKE0026AGZZ	Jack, MICROPHONES	AF
J3	QJAKJ0001SGZZ	Jack, HEADPHONES	AG
	QLUGL0201AGZZ	Lug Terminal, Pilot Lamp (PL3, PL4, PL5)	AB
	QLUGL0201SEZZ	Lug Terminal, Pilot Lamp (PL1, PL2)	AA
	QLUGP0102AGZZ	Lug Terminal	AA
	QLUGP0104AGZZ	Lug Terminal	AA
	QLUGP0111CEFW	Lug Terminal	AA
	QPLGA0205AGZZ	Plug, Mains Supply Cord (SEV)	AK
	QPWBF0498AFZZ	Printed Wiring Board, Main Amp.	AK
	QPWBF0499AFZZ	Printed Wiring Board, Tuner/ Pre-Amp.	AU
	QPWBF0500AFZZ	Printed Wiring Board, Equalizer Amp.	AM
	QPWBF0501AFZZ	Printed Wiring Board, RF Switches	AF
	QPWBF0502AFZZ	Printed Wiring Board, Controls	AQ
	QPWBF0503AFZZ	Printed Wiring Board, Record Oscillator	AE
	QPWBF0504AFZZ	Printed Wiring Board, ALC/ DOLBY NR Switches	AE
	QPWBF0520AFZZ	Printed Wiring Board, AF Switches	AE
	QPWBF0521AFZZ	Printed Wiring Board, Touch Switches	AD
	QPWBF0522AFZZ	Printed Wiring Board, Touch Switches IC	AF
SO3	QSOCD2258AFZZ	Socket, SPEAKERS LEET	AE
SO4	QSOCD2258AFZZ	Socket, SPEAKERS RIGHT	AE
SO1	QSOCD2259AFZZ	Socket, FM ANT	AD
SO2	QSOCD2260AFZZ	Socket, AM ANT	AE
SO5	QSOCD2557AFZZ	Socket, REC/PB	AF
SW6	QSOCE0410AGZZ	Switch, TATED LINE VOLTAGE	AH
SW8	QSW-F0101AFZZ	Switch, Audio Muting	AE
SW11	QSW-M0012AGZZ	Switch, Motor	AF
SW9	QSW-M0050AFZZ	Switch Auto, Tape Selector	AG
SW5	QSW-P0119AFZZ	Switch, POWER	AL
SW1A (A ~ J)	QSW-P0131AFZZ	Switch, U-FM/K-SW/M-MW/ L-LW/PHONO/MIC/TAPE/ LOUDNESS/MONO/FM MUTING	AW
SW3A, B	QSW-P0132AFZZ	Switch, DOLBY NR/ALC	AL
SW2	QSW-P0133AFZZ	Switch, AFC	AH
SW7	QSW-S0192AFZZ	Switch, Record/Playback	AG
	QTIPZ0002SGZZ	Tip, Connector	AA
	QTIPZ0056AFZZ	Tip, Connector, Phono	AA
	RHEDA0050AFZZ	Head, Erase	AN
	RHEDA0055AFZZ	Head, Record/Playback	AX
RL1	PLMP-0002AGZZ	Pilot Lamp, Dial Illumination	AE
PL2	RLMP-0002AGZZ	Pilot Lamp, Dial Illumination	AE
PL3	RLMPM0051AF02	Pilot Lamp, Meter Illumination	AE
PL4	RLMPM0051AF02	Pilot Lamp, Meter Illumination	AE
PL5	RLMPM0051AF02	Pilot Lamp, Meter Illumination	AE

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
	RMOTV0058AFZZ	Motor	AW
ME3	RMTRE0060AFZZ	Meter, U-FM	AT
ME1	RMTRL0119AFZZ	Meter, LEVEL-L	AT
ME2	RMTRL0120AFZZ	Meter, LEVEL-R/TUNING	AT
	RTPEK0034AGZZ	Cassette Tape	AP
	RTUNV0050AFZZ	Tuner Unit	BC

B7703-.8MNK
Printed in Japan